

TEXAS STATE VITA

Please note: For all entries, list most recent items first.

I. Academic/Professional Background

A. Name: Anne Hee Hiong Ngu

Title: Professor

B. Educational Background

<i>Degree</i>	<i>Year</i>	<i>University</i>	<i>Major</i>	<i>Thesis/Dissertation</i>
Ph.D.	1990	University of Western Australia	Computer Science Databases	
B.Sc.	1982	University of Western Australia	Computer Science Program Generation (First Class Honors)	
B.Sc.	1981	University of Western Australia	Science	

C. University Experience

<i>Position</i>	<i>University</i>	<i>Comments</i>	<i>Dates</i>
Professor/PhD Program Director, Computer Science	Texas State University. San Marcos, TX, United States		2010 – Present
Visiting Scholar, School of computing	Macquarie University, Australia		Mar 2022-May 2022
Visiting Scholar, EECS	University of California, Berkeley. Berkeley, CA, United States		Aug 2015 - Oct 2015
Associate Professor, Computer Science	Texas State University. San Marcos, TX, United States		2002 - 2010
Adjunct Associate Professor, School of Computer Science and Engineering	University of New South Wales. Sydney, NSW, Australia		2003 - 2006
Senior Lecturer, School of Computer Science and Engineering	University of New South Wales. Sydney, NSW, Australia		1995 - 2000
Lecturer, School of Computer Science and Engineering	University of New South Wales. Sydney, NSW, Australia		1992 - 1995
Teaching Assistant, Computer Science	University of Western Australia. Perth, WA, Australia		1986 - 1988

D. Relevant Professional Experience

<i>Position</i>	<i>Entity</i>	<i>Comments</i>	<i>Dates</i>
Distinguished Visiting Scientist	Data 61, CSIRO, Sydney, NSW, Australia	During my 2015 's sabbatical leave, I was appointed the Distinguished Visiting Scientist position at CSIRO.	Oct 2015 - Dec 2015
Faculty Scholar	Lawrence Livermore National Laboratory	I was appointed to this position for multiple summers	Summer 2003 -2006

Research Scientist	Telcordia Technologies		2000 - 2001
Senior Technical Staff	Microelectronics and Computer Technology (MCC)		June 2000 - July 2000
Visiting Scientist	Microelectronics and Computer Technology (MCC)	During my sabbatical from UNSW, I was appointed this position	Feb1998 - July 1998
ITK Research Fellow	Tilburg University, Tilburg, Netherlands	A competitive summer fellowship obtained in early years of career	January 1993 - March 1993
Associate Research Staff	Institute of Systems Science, Singapore		1989 - 1992
Programmer	National Semiconductor Asia Pacific, Singapore		1983 - 1985

E. Other Professional Credentials (licensure, certification, etc.)

Oracle Administration, Oracle, Sydney, Australia. (June 16, 1997 - June 20, 1997).

Object-Oriented Database Design using ObjectStore, Sydney, Australia. (June 17, 1996 - June 18, 1996).

II. TEACHING

A. Teaching Honors and Awards:

Alpha Chi Favorite Professor, Texas State University (2019).

B. Courses Taught:

- Introduction to Computer Science Research (CS7300) at **Texas State**: This course is designed to develop research and communication skills for Ph.D. students and engage new PhD students in research early. Topics covered include research processes, research methods, ethics, conducting literature reviews, critiquing papers, preparing research papers and posters, learning research communication skills via faculty research presentations, and common software tools and platforms available for conducting applied computing research
- Object Oriented Design and Implementation (CS4354, CS3354) at **Texas State**: Topics include model-driven architecture, design patterns, UML, and Java programming.
- Web Services Engineering (CS5369G) at **Texas State**: Topics include dynamic services integration, WSDL, SOAP, UDDI and research topics in Web service discovery and composition.
- Enterprise Application Integration (CS5376) at **Texas State**: Topics include approaches for rapid Business to Business (B2B) integration and enabling technologies such as J2EE, XML, JMS, JDBC, JSP, workflows and mashup.

- Database Theory and Design (CS5332) at **Texas State**: Topics include ER design, Object Model, Relational Model, Database Design Theory, DBMS architecture, SQL, PL/SQL, and NoSQL.
- Introduction to Database Systems (CS4332) at **Texas State**: Topics include logical database theory and design, implementation of SQL queries, and DBMS architecture.
- Database Systems (COMP3311) at University of New South Wales (UNSW): Topics included logical design, physical design, and implementation using Oracle Forms and Report. Student numbers ranged from 200-300. This was a core undergraduate course for the Software Engineering degree.
- Database Systems and Implementation (COMP9315) at UNSW: Topics included query optimization, storage management, concurrency control and Oracle performance tuning; and, implementation of query optimizers using the Volcano optimizer generator. A graduate course. Student numbers ranged from 50-100.
- Next-generation databases (COMP9314) at UNSW: Topics included object-oriented design, UML, object-oriented databases, distributed databases and web databases; and, implementation of electronic commerce applications using Object Store, Servlet, and the Apache Web-Server.
- Database Systems (COMP9804) at UNSW: This was the first distance learning database class offered at School of Computer Science and Engineering at UNSW. A core graduate course.
- Computing 1B (COMP1021) at UNSW, a first-year procedural programming language course. Student numbers were around 300.
- Prolog Programming (CS100) at University of Western Australia (UWA), a first year computer science logic programming language course. Student numbers were around 200.

C. Graduate Theses/Dissertations or Exit Committees (if supervisor, please indicate):

- Chair of 6 PhD dissertations at **Texas State**
- Committee member of 4 PhD dissertations at **Texas State**
- Chair of 13 master theses at **Texas State**
- Committee member of 15 master theses at **Texas State**
- Chair of 37 graduate independent study projects (Nicholas Haasch, Wang Xuan, Calvin Carter, Tianyi Yang, Sushma Channamsetty, Sarava Lakshmi Harika Vusirikala, Jaya Naga Bhavana Kommuru, Po-Teng Tseng, Manvick Paliwai, Priyanka Srinivas, Mahya Saeednejad, Bhargav Balasu, Awatif Yasmin, Rakesh Suvvari, Jianyuan Ni, Tarek Mahmud, Minakshi Debnath, Tousiful Syed Haque, Shahriar Kabir) at **Texas State**
- Supervisor of 20 research assistants (Arwa Jamnagarwala, Sushma Channamsetty, Saha Shuyabrata, Prathyusha Reddy Baddam, Po-Teng Tsang, Kritika Karki, Manvick Paliwal, Taylor Mauldin, Colin Campbell, Allison Anson, Mario Gutierrez, Christopher Carpenter, Ian Roquebert Martinez, Abheek Pradhan, Sayali Pathak, Sean Skaugen, Ronish Kumar Karkee, Wyatt Mahony, Garrett Faber, Diego Lechuga) at **Texas State**
- Chair or Co-chair of six PhD dissertations at UNSW
- Committee member of six PhD dissertations at four different Australian University
- Chair of three master theses at UNSW
- Chair of 12 master independent study projects at UNSW

List of Graduate Thesis Chaired:

Institution	Year Completed	Name	Thesis Topic	Type

TxState		Awatif Yasmin	Personalization of IoT Application	PhD (in progress)
TxState		Shahriar MD Kabir	Joint-Aware Graph Attention Diffusion Network for Fall Detection	PhD (in progress)
TxState		Minakshi Debnath	Time Series Forecasting with Deep Learning, Generative and Explainable AI	PhD (in progress)
TxState		Tousiful Syed Haque	Knowledge Distillation for Fall Detection	PhD (in progress)
TxState		Rakesh Suvvari	Edge Infrastructure for Automated Personalization Pipeline	Master (in progress)
TxState	2024	Tarek Mahmud	Detecting, Analyzing, and Repairing Compatibility Issues in Android Apps. Paper published:6	PhD
TxState	2024	Awatif Yasmin	Towards Improving the Real Time Performance of SmartFall System. Paper published: 3	Master
TxState	2024	Jianyuan Ni	Multimodal learning for Wearable Sensor-based Human Action Recognition. Paper published: 6	PhD
TxState	2023	Shahrob Noorani	Fall Detection using Time2Vec and Transformer	Master
TxState	2023	Nader Maray	Fall Detection Using Federated Learning for Model Personalization and Anomaly Detection. Paper published: 1	Master
TxState	2021	Mujahid Khan	An Experimental Study on Optimizing Energy Consumption on Edge IoT Devices	Master
TxState	2020	Jesuloluwa Eyitayo	Development of IoT Framework for Mobile Devices (Papers published: 1)	Master
TxState	2016	Vimal Moorthy Krishnamoorthy	Comparative Study of IoT Platform	Master
TxState	2015	Clark Phillips	Employing a scalable implementation of the cost sensitive alternating decision tree algorithm to efficiently link person records	Master
TxState	2011	Seth R. Orell Jr.	Semantic News Analysis and Prediction	Master
TxState	2008	Michael P. Carlson	Experimental study on the use of Semantic Web Concepts for Matching and Assembling of Rich Client Composite Applications (Papers published: 1)	Master
TxState	2005	Zhitong Zhao	Dynamic Invocation of Web Services (Papers published: 1)	Master
UNSW (Co-advisor)	2006	Michael Sheng	Dynamic service provisioning (Papers published: 12)	PhD
UNSW (Co-advisor)	2005	Jialie Shen	Multimedia Database (Papers published: 8)	PhD

TxState	2004	Huibo Ma	Specification-based Firewall Testing (<u>Papers published: 2</u>)	Master
TxState	2003	Yutu Liu	QoS Computation and Policing in Dynamic Web Service Selection. Student gained admission to Texas A&M PhD Program (<u>Papers published: 2</u>)	Master
UNSW (Co-advisor)	2003	LiangZhao Zeng	Dynamic Web Service Composition (<u>Papers published: 7</u>)	PhD
UNSW	1998	Mohammad Nabil	Modelling and Retrieving Multimedia Data Using Spatial and Temporal Information (<u>Papers published: 7</u>)	PhD
UNSW (Co-advisor)	1998	Banchong Harangsri	Query Size Estimation in Databases (<u>Papers Published: 9</u>)	PhD
UNSW	1997	Uma Srinivasan	A Framework for Conceptual Integration of Heterogeneous Databases (<u>Papers published: 7</u>)	PhD
UNSW	1997	Rong Lei	Dimension Reduction in Multimedia Data for Efficient Indexing (<u>Papers published: 3</u>)	Master
UNSW	1993	Kang Hyuk Lee	Experimentation on Maximal Subqueries for Heterogeneous Query Optimization	Master
UNSW	1993	Banchong Harangsri	Data Allocation on Distributed Database Systems (<u>Papers published: 1</u>)	Master

D. Courses Prepared and Curriculum Development:

- At **Texas State**: CS7300, CS5369G, CS5376, CS5332, CS4332, CS4354, CS3354
- At **Texas State**: Course coordinator for CS4332, CS4354 and CS7300
- At UNSW: COMP3311 (Database Systems), COMP9804 (Distance learning version of Database Systems), COMP9314 (Next-generation databases), COMP9315 (Database Systems and Implementation)
- Supervised the development of the distance education Certificate Program in Computer Science.
- Led PhD curriculum development at Texas State University from 2015-2017

E. Teaching Grants and Contracts

1. Funded External Teaching Grants and Contracts:

Novoa, Clara M, Romanella, Susan, Ngu, Anne H. (Co-Principal), Graham, Reiko, Guirguis, Mina S. SPARK: Increasing the Recruitment and Retention of Female Undergraduates in Engineering and Computer Science, NSF, \$600,000.00. (Funded: June 2012 - June 2016). Grant.

Ngu, Anne H. (Co-Principal). Student-centered Assessment System, Australian National Teaching Development Grant (CAUT), Federal, \$36,450.00. (Funded: 1993). Grant.

2. Funded Internal Teaching Grants and Contracts:

Ngu, Anne H. (Principal). Enterprise System Laboratory, Academic Computing, Texas State University, \$4,800.00. (Funded: 2009). Grant.

Ngu, Anne H. (Principal). Adapt Web-based Collaboration Software for Collaborative Problem Solving in Undergraduates and Graduates, Instructional Technology, Texas State University, \$1,200.00. (Funded: 2007). Grant.

Ngu, Anne H. (Principal). A post-graduate certificate course in Computer Science Distance Education, University of New South Wales Development Grant, Institutional (Higher Ed), \$80,000.00. (Funded: 1996). Grant.

Ngu, Anne H. (Co-Principal). Teaching infrastructure for databases, University of New South Wales Capital Grant, Institutional (Higher Ed), \$308,000.00. (Funded: 1996). Grant.

F. Other:

1. Faculty Teaching Development Activities

- Completed Graduate Certificate in Higher Education in October, 1994
- Completed Oracle Administration course in June 1997
- Completed Object-Oriented Database Design course using ObjectStore in June 1996

2. Distance Learning Teaching Initiative

I led the distance education Graduate Certificate in Computer Science project at UNSW from 1995-2000. This involved development of four Computer Science courses:

- Computer Programming and Design
- Data Structures and Algorithms
- Computer Organization and Architecture
- Database Design and Analysis

I was the main author for Database Design and Analysis course and also the project manager for the project. This included keeping other authors on schedule, making arrangements for casual helpers, ordering the necessary hardware and software, drawing up the financial plan, supervising the writing of the laboratory manual for the desktop programming environment, as well as developing a marketing plan for this certificate program.

3. Undergraduate Theses Supervised:

- At Texas State: Chair of 19 undergraduate independent study projects or thesis
- At Texas State: Chair of 32 REU (Research Experiences for Undergraduates) student projects
- At UNSW: Chair, 16 undergraduate theses; committee member, 23 undergraduate theses

List of Undergraduate thesis/project supervised

Institution	Year	Name	Thesis Topic
TxState	2025	Abheek Pradhan	Dual-Stream Transformer with Kalman Fusion for Wearable Fall Detection (paper in progress)
TxState	2025	Ronish Kumar Karkee	Unified UI for display of MOCA scores and balance metrics
TxState	2024	Diego Lechuga	SmartFall: Improving Accuracy with Knowledge Distillation
TxState	2024	Sean Skaugen	Deriving center of mass ad base of support from the skeletal structure for improved fall detection
Txstate	2024	Wyatt Mahoney	ConvLSTM with Self-Attention for Fall Detection
TxState	2022	Ian Roquebert Martinez	Transfer Learning for Improved Fall Detection
TxState	2021	Colin Campbell	Edge Middleware with Cordova Host (paper published: 1)
TxState	2021	Huangyingrui Wang	Fall Forecasting with K-Nearest Neighbors Algorithm using stick balancing data (paper published: 1)
TxState	2021	Allison Anson	Fall Detection with Multiple Sources
TxState	2020	Dang Nguyen	Human Activity Labeler with Cordova Accessor Host
TxState	2020	Shuan Coyne	Continuous Personalized Fall Detection and Data Collection
TxState	2018	Taylor Mauldin	Fall Detection using Recurrent Neural Network with Bagging (Paper published: 2)
TxState	2018	Christopher Carpenter	Improving Smartwatch based Fall Detection Using the Accessor Framework (paper published: 1)
TxState	2017	Brock Yarbrough	Experimenting different startup strategies in technologies (paper published: 1)
TxState	2015	Mario Gutierrez	Real-Time Prediction of Blood Alcohol Content Using Smartwatch Sensor Data (paper published: 2)
TxState	2014	Julian Scott	Similarity-based Search Engine (paper published;1)
TxState	2012	Joseph Molin	Near Me Android Application
TxState	2011	Luke Anderson	Implementation of the CS-ADTree Algorithm for Record Linkage
TxState	2008	Jared Dillard	Collaborative Ranking of Products and Services
UNSW	2000	John Cleary	Information Brokerage over Dynamic Heterogeneous Sources
UNSW	2000	Eddie Yin Ho Chan	Building E-commerce Applications (group project)
UNSW	2000	James Chan-Sing Ho	Building E-commerce Applications (group project)
UNSW	2000	Alexander Kar	Building E-commerce Applications (group project)
UNSW	2000	Andrew Liu	Online Real Estate Database Management

UNSW	2000	Kim Yang	Integrated Workflows
UNSW	1999	Gunawan Liem	Query Optimizer in Venus Database
UNSW	1999	Welly Santosa	Indexing and Retrieving in Multimedia Databases
UNSW	1999	Udin Masli	Information Agents
UNSW	1999	Murali Choudary Jetti	Workflow Design Tool
UNSW	1998	Miladin Milic	Image Management System using Illustra
UNSW	1995	Hendy Hieswanto	A Market-based Distributed Query Optimizer
UNSW	1995	Eddy Siauwidjaja	Translation Tools for O2 to Ingres
UNSW	1993	Yun Tao Sun	Query Processing in Heterogeneous Database Systems
UNSW	1993	Norman Lee	A Hypertext Approach to Querying Clinical Multidatabases (Paper published: 1)

G. Teaching Professional Development Activities Attended

Conference Attendance, "NCWIT Summit On Women and IT where conversions lead to change," NCWIT, Nashville, TN, United States. (May 14, 2019 - May 16, 2019).

Conference Attendance, "Google HSI Faculty Summit," Google, Venice Beach, LA, United States. (October 2017).

Conference Attendance, "NCWIT Summit," Tucson, AZ, United States. (May 2017).

Workshop, "Cultivation: An Interactive Theater Performance on Faculty Mentoring and Diversity in the Campus Community." (April 2016).

Workshop, "Impact Day- Building a Deeper Computer Science Talent Pool." (September 5, 2014).

Conference Attendance, "NCWIT Summit," Tucson, United States. (May 2013).

Conference Attendance, "NCWIT Summit," Chicago, IL, United States. (May 2012).

Conference Attendance, "NCWIT Summit," New York City, NY, United States. (May 2011).

Workshop, "Texas Environment Education Advisory Committee Meeting." (December 10, 2008).

III. SCHOLARLY/CREATIVE

A. Works in Print

1. Books (if not refereed, please indicate)

a. Scholarly Monographs:

b. Textbooks:

c. Edited Books/Conference Proceedings:

1. Sheng Q.Z., Li Xue, Ngu AHH (CO), Qin Y, Deng X., Special issue on Web of Things, Information Systems Frontiers, A journal of Research and Innovation, Vol. 18, No. 4, August 2016
2. Ngu AHH (PA)., Masaru Kitsuregawa, Erich Neuhold, Special issue on Web Information Systems Engineering, Journal of World Wide Web: Internet and Information Systems, Vol. 10, No. 2, June 2007.
3. Ngu AHH (PA)., Kitsuregawa M., Neuhold E., Chung Jen-Yao, Sheng QZ., Web Information Systems Engineering (WISE05) Proceedings, New York City, New York, LNCS 3806, ISBN 3-540-30017-1, Springer, November 2005.
4. Rakesh Agrawal, Klaus Dittrich and Ngu AHH. (CO), Proceedings of the Eighteenth International Conference on Data Engineering (ICDE2002), San Jose, California, February 26 - March 1st, 2002, IEEE Computer Society Publisher

d. Chapters in Books:

1. Ngu AHH.(PA), Liu Y., Zeng LZ., and Sheng QZ., "Configurable QoS Computation and Policing in Dynamic Web Service Selection", Service Oriented Computing (SOC), Georgakopoulos D. & Papazoglou M. (eds), MIT Press, ISBN-13:978-0-262-07296-0, 2008
2. Shen J (DST)., Shepherd J., Ngu AHH., "A Novel Signature Technique for Efficient Retrieval over Large Music Datasets", in Semantic Multimedia Retrieval, Androutsos D. (editor), CRC Press, 2006.
3. Ngu AHH.(CO) Shen J., Shepherd J., "Towards Semantically Meaningful Feature Spaces for Effective Indexing in Large Image Databases", Managing Multimedia Semantics, Srinivasan U., & Nepal S. (eds), IRM Press, ISBN 159140542-4, January 2005.
4. Srinivasan U.(DST), Ngu AHH. (CO) and Gedeon T., "Concept Clustering for Cooperation in Heterogeneous Information Systems", in Database Application Semantics, Meersman R., & Mark L. (eds), Chapman & Hall, London, pp481-499, 1996.

e. Creative Books

2. Articles

a. Refereed Journal Articles:

CO -Corresponding Author, URGST -Undergraduate Research Student, PA-Principal Author, DST- Dissertation Student

1. Mahmud, T., Duan, B., Che, M., Ngu, A.H.H., & Yang, G. (2025). Automated Update of Android Deprecated API Usages with Large Language Models. *IEEE Transactions on Software Engineering*, 52(1). <https://doi.org/10.1109/TSE.2025.3627897> doi: 10.1109/TSE.2025.3627897
2. Mahmud, T., Che, M., Ngu, A.H.H., & Yang, G. (2025). Why android app testing falls short: empirical insights from open-source projects and a practitioner survey. *Empirical Software Engineering*, 30(6).
3. Alamgeer, S., Souissi, Y., & Ngu, A.H.H. (2025). AI-Generated Fall Data: Assessing LLMs and Diffusion Model for Wearable Fall Detection. *Sensors*, 25(16), 5144. <https://doi.org/10.3390/s25165144>
4. Debnath, M., Almageer, S., Kabir, S., & Ngu, A.H.H. (2025). Enhancing Wearable Fall Detection System via Synthetic Data. *Sensors (Switzerland)*, 25(15), <https://doi.org/10.3390/s25154639>
5. Mahmud, T. S. U., Kisi, K. P., Kayastha, R., Ngu, A.H.H., & Alamgeer, S. (2025). Evaluating the Effectiveness of Plantar Pressure Sensors for Fall Detection in Sloped Surfaces. *Electronics*, 14(15), 3003. *Selected as Editor's Choice for the Bioelectronics section.*
6. Zeng, L. L., Benatallah, B., Dumas, M., Ngu, A.H.H., & Kalagnanam, J. (2025). QoS-Aware Service Composition; A Retrospective (Most Influential Paper). *IEEE Transactions on Software Engineering*, 51(3), 838–841. <https://doi.org/10.1109/TSE.2025.3533423> doi: 10.1109/TSE.2025.3533423
7. Yasmin, A., Mahmud, T., Haque, S. T., Alamgeer, S., & Ngu, A.H.H. (2025). Enhancing Real-World Fall Detection Using Commodity Devices: A Systematic Study. *Sensors*, 25(17), 5249.
8. Haque, S. T., Debnath, M., Yasmin, A., Mahmud, T. & Ngu, A.H.H. (2024). Experimental Study of LSTM and Transformer Models for Fall Detection on Smartwatches. *Sensors (Switzerland)*, 24(19). <https://www.mdpi.com/1424-8220/24/19/6235>
9. Debnath, M., Chang, J., Bhandari, K., Nagy, D. J., Insperger, T., Milton, J. G., & Ngu, A.H.H. (2024). Pole balancing on the fingertip: model-motivated machine learning forecasting of falls. *Frontiers in physiology*, 15, 1334396.
10. Maray, N.; Ngu, A.H.H. (CO); Ni, J.; Debnath, M.; Wang, L (2023). Transfer Learning on Small Datasets for Improved Fall Detection. *Sensors* 2023, 23, 11, <https://doi.org/10.3390/s23031105>
11. Ngu, A.H.H.(CO), Metsis V., Coyne S., Srinivas P., Mahmud U., Chee KH (2022), Personalized Watch-based Fall Detection Using a Collaborative Edge-Cloud Framework, *International Journal of Neural Systems*, 32 (2), 15 August 2022, DOI: [10.1142/s0129065722500484](https://doi.org/10.1142/s0129065722500484)
12. Ngu, A.H.H.(CO), Eyitayo, J. S., Yang, G., Campbell, C., Sheng, Q. Z., & Ni, J. (2021). An IoT Edge Computing Framework using Cordova Accessor Host. *IEEE Internet of Things Journal*, 9(1), 671–683. <https://doi.org/10.1109/JIOT.2021.3086043>
13. Mauldin, T. R., Ngu, A.H.H. (CO), Metsis, V., & Canby, M. (2020). Ensemble Deep Learning on Wearables Using Small Datasets. *ACM Transactions on Computing for HealthCare*, 2(1).
14. Fang, S. X. T., Sheng, Q. Z. T., Wang, X., & Ngu, A.H.H. (. (2020). From Appearance to Essence: Comparing Truth Discovery Methods Without Using Ground Truth. *ACM Transactions on Intelligent Systems and Technology*, 11(6), 1–24.

15. Ngu, AHH.(CO), Mauldin, T., Metsis, V., Canby, M., & Tesic, J. (2019). Experimentation and Analysis of Ensemble Deep Learning in IoT Applications. *Open Journal of Internet of Things (OJIOT)*, 5(1), 133–149. <http://nbn-resolving.de/urn:nbn:de:101:1-2018080519304951282148>
16. Mauldin, T., Canby, M., Metsis, V., Ngu, AHH (CO)., & Riveria, C. (2018). SmartFall: A Smartwatch-based Fall Detection System Using Deep Learning. *Sensors*, 18(10), 3363. <https://doi.org/10.3390/s18103363>
17. Fang, X. S. (DST), Sheng, Q. Z., Wang, X., Chu, D., & Ngu, AHH. (2018). SmartVote: a full-fledged graph-based model for multi-valued truth discovery. *Journal of World Wide Web: Internet and Information Systems*, 8(4). <https://doi.org/https://doi.org/10.1007/s11280-018-0629-3>
18. Ngu, AHH.(CO), Tseng, P.-T., Paliwal, M., Carpenter, C., & Stipe, W. (2018). Smartwatch-Based IoT Fall Detection Application. *Open Journal of Internet Of Things (OJIOT)*, 4(1), 87–98. Retrieved from <http://nbn-resolving.de/urn:nbn:de:101:1-2018080519304951282148>
19. Chow, E. T., Schuermann, R. T., Ngu, AHH., & Dahal, K. R. (2018). Spatial mining of migration patterns from web demographics. *International Journal of Geographical Information Science*, 32(10), 1977–1998. <https://doi.org/10.1080/13658816.2018.1470633>
20. Ngu AHH.(CO), Nepal S., Sheng Q., Gutierrez M., Metsis V (2017)., IoT Middleware: A Survey on Issues and Technologies, *IEEE Internet of Things Journal (JIOT)*, Vol. 4, Issue 1, pp 1-20, February, 2017.
21. Yang, T., Ngu, AHH(CO). (2017). Implementation of Decision Tree Using Hadoop MapReduce. *International Journal of Biomedical Data Mining*, 6(125). <https://doi.org/10.4172/2090-4924.100012>
22. Yao L (DST), Sheng, Q., Ngu AHH, Li. X.,Boualem B (2017). Unveiling Correlations via Mining Human-Thing Interactions in the Web of Things, *ACM Transactions on Intelligent Systems and Technology (TIST)*, 2017.
23. Noor T. H.,(DST) Sheng, Q., Yao, L., Dustdar, S., Ngu AHH. (2016), CloudArmor: Supporting Reputation-based Trust Management for cloud Services, *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, Vol. 27, No. 2, February, 2016.
24. Yao L (DST), Sheng, Q., Ngu AHH, Li. X.,(2016) Things of Interest Recommendation by Leveraging Heterogeneous Relations in Internet of Things, *ACM Transactions on Internet Technology (TOIT)*, Vol. 16, No 2, April 2016.
25. Yao L (DST), Sheng, Q., Ngu AHH, Gao, B., Li. X., Wang S.,(2016) Multi-Label Classification via Learning a Unified Object-Label Graph with Sparse Representation, *World Wide Web Journal (WWWJ)*, Vol. 19, No. 6, p1125-1149, November 2016.
26. Yao L (DST), Sheng, Q., Ngu AHH, Yu, J. (2015). Unified Collaborative and Content-Based Web Services Recommendation, *IEEE Transactions on Services Computing*, 8(3):453-466, 2015
27. Noor T.H.(DST)., Sheng Q., Ngu AHH, Dustdar S.,(2014). Analysis of Web-Scale Cloud Services, *IEEE Internet Computing*, Vol. 18, No. 4, 2014.
28. Ngu AHH., Jamnagarwala A., Chin G., Sivaramakrishnan G., Critchlow T. (2011), Kepler Scientific Workflow Design and Execution with Contexts, *International Journal on Computers and their Applications*, Vol. 18, No. 3, special issue on scientific workflows, Provenance and Their Applications, September, 2011.

29. Ngu AHH., Jamnagarwala A., Chin G., Sivaramakrishnan G., Critchlow T. (2010), Context-Aware Scientific Workflow Systems, *Journal of Business Process Management and Integration*, Vol. 5, No. 1, special issue on scientific workflows , 2010.
30. Ngu AHH., Carlson MP, Sheng QZ., Paik H. (2010), Semantic-based Mashup of Composite Applications, *IEEE Transactions on Services Computing*, Vol 3, No. 1, 2010.
31. Sheng Q.Z, Benatallah B, Maamar Z, Ngu AHH. (2009), Configurable Composition and Adaptive Provisioning of Web Services, *IEEE Transactions on Services Computing*, Vol.2, No. 1, pages 34-49, January-March, 2009.
32. Zeng LZ., Ngu AHH., Benatallah B., Podorozhny R., Lei H., Dynamic Composition and Optimization of Web Services, *Journal on Distributed and Parallel Databases (Springer-Verlag)*, Vol.24, No. 1-3, December, 2008.
33. Shen J. (DST), Shepherd J., Ngu AHH., An Empirical Study of Query Effectiveness Improvement via Multiple Visual Feature Integration, *International Journal on Image and Graphics (IJIG)*, Vol 7(3), World Scientific Publishing Company, 2007.
34. Shen J. (DST), J. Shepherd, Ngu AHH., Efficient Content based Retrieval with Multiple Acoustic Feature Composition, *IEEE Transactions on Multimedia*, Vol. 8, No. 6, December 2006.
35. Ngu AHH. (PA), Rocco. D, Critchlow T., Buttler D., Automatic Discovery and Inferencing of Complex Bioinformatics Web Interfaces, *Journal of World Wide Web: Internet and Information Systems*, Vol. 8, No. 4, December 2005.
36. Zeng LZ. (DST), Benatallah B., Ngu AHH., Dumas M., Kalagnanam J., Cheng J., QoS-Aware Middleware for Web Services Composition, *IEEE Transactions on Software Engineering*, Vol.30, No. 5, 2004, over 4000 citations on Google Scholar. Named Most Influential Paper in 2025.
37. Ngu AHH. (CO), Harangsri B.,(DST), Shepherd J., Query Size Estimation for Joins using Systematic Sampling, *Journal of Distributed and Parallel Databases*, Vol. 15, No. 3, 2004,
38. Medjahed B., Benatallah B., Bouguettaya A., Ngu AHH., Elmagarmid A., Business-to-Business Interactions: Issues and Enabling Technologies, *The VLDB Journal*, Vol. 12, No. 1, May 2003. Over 600 citations on Google Scholar.
39. Zeng LZ.(DST), Benatallah B., Lei H., Ngu AHH., Flaxer D., Chang H., Flexible Composition of Enterprise Web Services, *International Journal of Electronic Commerce and Business Media*, Vol. 13, No. 2, 2003. Over 100 citations on Google Scholar.
40. Nodine M., Ngu AHH.(PA), Cassandra T., Bohrer W., Scalable Semantic Brokering over Dynamic Heterogeneous Data Sources in InfoSleuth, *IEEE Transactions on Knowledge and Data Engineering*, Vol. 15, No. 5, September-October 2003. Over 150 citations on Google Scholar.
41. Ngu AHH.(PA), Sheng QZ., Huynh D., Lei R., Combining Multi-visual Features for Efficient Indexing in a Large Image Database, *The VLDB Journal*, Vol. 9, No. 4, pp279-293, January, 2001.

42. Nabil M.(DST), Ngu AHH. (CO), Shepherd J., Modeling and Retrieval of Moving Objects, *International Journal on Multimedia Tools and Applications*, Vol. 13, No. 1, pp35-71, January, 2001.
43. Srinivasan U.(DST), Ngu AHH.(CO), Gedeon T., Managing Heterogeneous Information Systems through Discovery and Retrieval of generic concepts, *Journal of American Society of Information Science*, Vol. 51, No. 8, John Wiley & Sons, May, 2000.
44. Weigand H., Ngu AHH.(CO), Flexible Specification of Interoperable Transactions, *International Journal on Data and Knowledge Engineering, North-Holland*, Vol. 25, No. 3, 1998.
45. Nabil M.(DST), Ngu AHH, and Shepherd J., Picture Similarity Retrieval using 2D Projection Interval Relationships, *IEEE Transactions on Knowledge and Data Engineering* , Vol. 8, No 4, August, 1996. Over 150 citations on Google Scholar.
46. Ngu AHH (PA), Meersman R, Weigand H., Specification and Verification of Communication Constraints for Interoperable Transaction, *International Journal of Intelligent and Cooperative Information Systems*, Vol. 3, No. 1, pp47-65, 1994.
47. Ngu AHH.,(PA) Specification and Verification of Temporal Relationships in Transaction Modeling, *Information System*, Vol. 15, No. 2, pp257-267, 1990.
48. Ngu AHH (PA)., Conceptual Transaction Modeling, *IEEE Transactions on Knowledge and Data Engineering*, Vol. 1, No 4, pp508-518, 1989 (selected as the best student paper in ICDE89).

b. Non-refereed Articles:

None

3. Conference Proceedings

a. Refereed Conference Proceedings/Workshops:

1. Ni, J., Sarbajna, R., & Ngu, A. H. (2025). S3KD: Semantic-Aware Spiking Neural Networks Self-Distillation for Human Action Recognition. IEEE International Pervasive Computing Conferences and associated workshops (CoMoRea), Washington D.C, March 2025.
2. Debnath, M., Kabir, M. S., Almageer, S., & Ngu, A. H. (2025). Improving Time-Series Forecasting with Statistical and AI-Driven Feature Optimization. In IEEE Computers, Software, and Applications Conference (COMPSAC 2025). IEEE. July, Toronto, 2025.
3. Kabir, M. S., Debnath, M., Almageer, S., & Ngu, A. H. (2025). TransConv-DDPM: Enhanced Diffusion Model for Generating Time-Series Data in Healthcare. In IEEE Computers, Software, and Applications Conference (COMPSAC 2025). IEEE, July, Toronto, 2025.
4. Sharma, N., Sun, C., Zhao, Z., Ngu, A. H., Latapie, H., & Yan, Y. (2025). SSDL:Sensor-to-Skeleton Diffusion Model with Lipschitz Regularization for Human Activity Recognition. In 31st International Conference on Multimedia Modeling. Springer, Nara, Japan, January 2025
5. Haque S.T., Ni J., Li J., Yan Y., & Ngu A.H. (2024): "LightHART: Lightweight Human Activity Recognition Transformer", 27th International Conference on Pattern Recognition", December, Kolkata, India, 2024.

6. Haque S.T. & Ngu A. H. (2024). "Poster: Multimodal ConvTransformer for Human Activity Recognition," poster paper, CHASE24: IEEE/ACM International Conference on Connected Health: Applications, Systems and Engineering Technologies Proceedings, June, Wilmington, DE, USA. [10.1109/CHASE60773.2024.00041](https://doi.org/10.1109/CHASE60773.2024.00041)
7. Yasmin A., Mahmud T., Debnath M., Ngu A. H. (2024): "An Empirical Study on AI-Powered Edge Computing Architectures for Real-Time IoT Applications", IEEE Computers, Software, and Applications Conference (COMPSAC 2024), July2-4, Osaka, Japan.
8. Debnath M., Kabir Md. S., Ni J., Ngu A.H.,(2024): "The Impact of Synthetic Data on Fall Detection Application", 22nd International Conference on Artificial Intelligence in Medicine (AIME 2024), July 9-12, Salt Lake City, Utah, USA.
9. Li, X., Metsis, V., & Ngu, A. H. (2023). "Generating Realistic Multi-class Biosignals with BioSGAN: A Transformer-based Label-guided Generative Adversarial Network", The 25th International Conference on Artificial Intelligence (ICAI'23), Las Vegas, July 2023.
10. Ngu, A.H., A. Yasmin, T. Mahmud, A. Mahmood, Q.Z. Sheng (2023), Demo:P-Fall: Personalization Pipeline for Fall Detection", 8th International IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE23), Orlando, USA, June 2023.
11. Ni. J., Ngu, A.H., Yan Y.(2022), "Progressive Cross-Modal Knowledge Distillation for Human Action Recognition", 30th ACM International Conference on Multimedia 2022, October, Lisbon, Portugal.
12. Li X., Metsis V., Wang H., Ngu A.H. (2022), "TTS-GAN: A Transformer-based Time-Series Generative Adversarial Network", 20th International Conference on Artificial Intelligence in Medicine (AIME 2022), Halifax, NS, Canada, June 2022.
13. Ni j., Sarbajna R., Liu Y., Ngu A.H., Yan Y. (2022), "Cross-modal Knowledge Distillation for Vision-to-Sensor Action Recognition", IEEE International Conference on Acoustics, Speech, and Signal Processing 2022 (ICASSP), Singapore, May 2022.
14. Ngu, A.H., Coyne, S., Srinivas, P., & Metsis, V. (. (2021). Collaborative Edge-Cloud Computing for Personalized Fall Detection. *Artificial Intelligence Applications and Innovations. AIAI 2021*, 323–336. https://doi.org/https://doi.org/10.1007/978-3-030-79150-6_26
15. Ngu, A.H., Metsis, V., Coyne, S., Chung, B., Pai, R., & Chang, J. (2020). Personalized Fall Detection System. IEEE International Conference on Pervasive Computing and Communications Workshops (PerCom Workshops), 1–7. <https://doi.org/10.1109/PerComWorkshops48775.2020.9156172>
16. Samimi, H., Tesic, J., & Ngu, A.H. (2019). Patient Centric Data Integration for Improved Diagnosis and Risk Prediction. Heterogeneous Data Management, Polystores, and Analytics for Healthcare (SIGMOD Workshop), 185–195. https://doi.org/https://link.springer.com/chapter/10.1007/978-3-030-33752-0_13
17. Ngu, A.H., Wu, Y., Polican, A., Zare, H., & Yao, L. (2017). Fall Detection Using Smartwatch Sensor Data with Accessor Architecture. International Conference on Smart Health (ICSH 2017), Hong Kong, In *Lecture Notes in Computer Science* (Vol. 10347). Springer, Cham: Springer. https://doi.org/https://doi.org/10.1007/978-3-319-67964-8_8
18. Fang, X. S., Sheng, Q. Z., Wang, X., Barhamgi, M., & Yao, L., & Ngu A.H. (2017). SourceVote: Fusing Multi-valued Data via Inter-source Agreements (pp. 164–172). In *Conceptual Modelling –*

- 36 International ER Conference. Valencia, Spain: Springer, Lecture notes in Computer Science. <https://doi.org/10.1007/978-3-319-69904-2>
19. Fang, X. S., Sheng, Q. Z., & Wang, X., & Ngu AHH. (2017). Value Veracity Estimation for Multi-Truth Objects via a Graph-Based Approach. In 26th International World Wide Web Conference. Perth, Australia: ACM (Creative Commons).
 20. Ngu AHH.(PA), Fang S. (URGST), Park H.,(2016) "Social-PPM: Personal Experience Sharing and Recommendation", The Second International Conference on Collaboration and Internet Computing (CIC 2016)), Pittsburg, USA, November 2016.
 21. Jing X, Park H., Zhan L., Ngu AHH.,(2016), "Aggregated Search over Personal Process Description Graph", Database and Expert Systems Applications: 27th International Conference, DEXA 2016, Portugal, September 2016.
 22. Gutierrez M (URGST), Fast M. Fast, (UGST), Ngu AHH.,Gao B.,(2015), "Real-Time Prediction of Blood Alcohol Content Using Smartwatch Sensor Data", International Conference for Smart Health (ICSH 2015), November, Phoenix, Arizona, 2015
 23. Jing X, Park H, Ngu AHH, Zhan L.(2015), "Personal Process Description Graph for Describing and Querying Personal Processes", 26th Australasian Database Conference (ADC 2015), Melbourne, June, 2015.
 24. Yao L (DST), Sheng Q.Z, Ngu AHH., ThingsNavi: Finding Most Related Things Via Multi-Dimensional Modeling Human-Things Interactions, 11th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (Mobiquitous 2014), London, Great Britain, 2014.
 25. Yao L (DST), Sheng Q.Z, Ngu AHH., Gao B. Keeping You in the Loop: Enabling Web-based Things Management in the Internet of Things, ACM Conference on Information and Knowledge Management (CIKM 2014 Demo Paper), Shanghai, China.
 26. Ngu AHH, Julian S. (URGST), Ma J., Sheng Q.Z., Yao L. ServiceXplorer: A Similarity-based Web Service Search Engine, ACM Conference on Information Retrieval (SIGIR 2014 demo track), July-6-11, 2014, Gold Coast, Australia.
 27. Ngu AHH.(PA), Memmi H. (URGST), Torres J. (URGST), Park H., Hajimirsadeghi S., Shepherd J. "Social-PPM: Social-Aware Personal Process Management", The Second Asia-Pacific Conference on Business Process Management (APBM 2014), Brisbane, Australia.
 28. Boman J. (URGST), Taylor J. (URGST), Ngu AHH. (CO), Flexible Middleware for Integration of Things and Applications, 2nd International Workshop on Internet of Things (C-IOT 2014), October 22, Miami, USA, 2014.
 29. Yao L.(DST), Sheng Q.Z., Gao B, Ngu AHH, A Model for Discovering Correlations of Ubiquitous Things, IEEE International Conference on data Mining, Dallas, December 2013.
 30. Noor T.H.,(DST), Sheng Q.z., Ngu AHH, Cloud Armor: A Platform for Credibility-Based Trust Management of Cloud Services, ACM Conference on Information and Knowledge Management (CIKM 2013), CA, USA, 2013
 31. Noor T.H.,(DST) , Sheng Q.z., Alfazi A., Law J., Ngu AHH, CSCE: A Crawler Engine for Cloud Services Discovery on the World Wide Web, IEEE International Conference on Web Services (ICWS 2013), June, 2013, Santa Clara, USA, 2013.

32. Ma J. , Sheng Q.Z., Liao K., Zhang Y., Ngu AHH., WS-Finder: A Framework for Similarity Search of Web Services, tenth International Conference on Service Oriented Computing, November, Shanghai, China, 2012.
33. Hicks C, (URGST) Scheffer M.(URGST), Ngu AHH. (CO), Sheng Q.Z., Discovery and Cataloging of Deep Web Sources, IEEE International Workshop on Data Integration and Mining (DIM-2012), Las, Vegas, USA, July, 2012.
34. Chin G., Sivaramakrishnan G., Critchlow T., Schuchardt K., Ngu AHH., Scientist-Centered Workflow Abstractions via Generic Actors, Workflow Templates and Context-Awareness for Groundwater Modelling and Analysis, IEEE 2011 Fifth International Workshop on Scientific Workflows, Washington D.C., USA, July, 2011.
35. Hoang D.T., Paik HY., Ngu AHH., Spreadsheet as a Generic Purpose Mashup Development Environment, International Conference on Service Oriented Computing (ICSOC10), San Francisco, USA, December, 2010. Acceptance rate: 15%
36. Yildiz U., Guabtni, A., Ngu AHH., Towards Scientific Workflow Patterns, The Fourth Workshop on Workflows in Support of Large-Scale Science (in conjunction with SC 2009), Portland, OR, November 16, 2009. Acceptance rate: 60%
37. Yildiz U., Guabtni A., Ngu AHH., Business verses scientific workflows: A comparative study, IEEE 2009 Third International Workshop on Scientific Workflows (SWF 2009), Los Angeles, California, USA, July 6-10, 2009. Acceptance rate: 60%
38. Sheng QZ., Pohlens S., Yu J., Wong HS., Ngu AHH., Maamar Z., ContextServ: A Platform for Rapid and Flexible Development of Context-Aware Web Services. 31st International Conference on Software Engineering (ICSE 2009), Vancouver, Canada, May 16-24, 2009. Acceptance rate: 33%
39. Sheng QZ., Maamar Z., Yu J, Ngu AHH., Robust Web Services Provisioning Through On-Demand Replication, The 8th International Conference on Information Systems Technology and Its Applications (*ISTA 2009*). Sydney, Australia, April 21-24, 2009. Acceptance rate:33%
40. Carlson M.P (GST)., Ngu AHH. (CO), Podorozhny R., Zeng L.Z., Automatic Mash Up of Composite Applications, International Conference on Service Oriented Computing (ICSOC08), Sydney, Australia, December, 2008. Acceptance rate: 20%
41. Ngu AHH (PA) Bowers S., Haasch N.(GST), McPhilips T., Critchlow T., Flexible Scientific Workflow Modeling using Frames, Templates and Dynamic Embedding, 20th International Conference on Scientific and Statistical Database Management (SSDBMS08) , July 9-11, Hong Kong, China, 2008. Acceptance rate: 50%
42. Sheng QZ., Ngu AHH., A Novel Approach for Robust Web Services Provisioning, *The 9th International Conference on Enterprise Information Systems (ICEIS07)*, June 12-16, Funchal, Madeira, Portugal, 2007. Acceptance rate:40%
43. Bowers S., Ludaescher B., Ngu AHH.(CO), Critchlow T., Enabling Scientific Workflow Reuse through Structured Composition of Dataflow and Control-Flow, IEEE Workshop on Workflow and Data Flow for Scientific Applications (SciFlow2006), April, Atlanta, 2006. 29 citations on Google Scholar.
44. Shen J.(DST), Shepherd J., Ngu AHH., InMAF: Indexing music databases via multiple acoustic features, *ACM SIGMOD Conference*, 2006. Acceptance rate: 20%

45. Podorozhny R., Ngu AHH.(PA), Georgakopoulos D., Business Process Learning for Real Time Enterprise, First International Workshop on Business Intelligence for Real Time Enterprise (BIRTE), September 11, 2006, Seoul, Korea.
46. Zhao Z.(GST), Sheng Q.Z., Ngu AHH., On-Demand Invocation of web Services, The IASTED Conference on Web Technologies, applications, and Services, Calgary, Alberta, Canada, July 17-19, 2006.
47. Ngu AHH. (PA), Buttler D., Critchlow T., Automatic Generation of Service Class Description for Automatic Classification of Web Sources, 2nd International Workshop on Data Integration in the Life Sciences (DILS 2005), July, San Diego, 2005. Accepted as a short paper. Acceptance rate: 50%
48. Shen J.(DST), Shepherd J., Ngu AHH., On Efficient Genre Music Classification, 10th International Conference on Database Systems for Advanced Applications (DASFAA2005), April, Beijing, China, 2005. Acceptance rate: 22%
49. Shen J. (DST), Shepherd J., Ngu AHH., Semantic-Sensitive Classification for Large Image Libraries, The Eleventh International Multi-Media Modeling Conference (MMM2005), Melbourne, Australia, January 2005. Acceptance rate: 47%
50. Liu. A., Gouda G.M., Ma. H (GST)., Ngu AHH., Non-Intrusive Testing of Firewalls, 1st International Computer Engineering Conference: New Technologies for the Information Society (ICENCO'2004), Cairo, Egypt, 2004. Given as invited talk at ICENCO 2004 by Gouda.
51. Liu. A., Gouda G.M., Ma. H. (GST), Ngu AHH., Firewall Queries, 8th International Conference on Principles of Distributed Systems (OPODIS-04), Grenoble, France, 2004. Acceptance rate: 29%
52. Shen J.(DST) , Ngu AHH., Shepherd J., Integrating Heterogeneous Features for Efficient Content Based Music Retrieval, 13th Conference on Information and Knowledge Management-CIKM2004, Washington DC, November 8-13, 2004. Acceptance rate: 29%
53. Sheng QZ (DST)., Benatallah B., Maamar Z., Dumas M., Ngu AHH., Enabling Personalized Composition and Adaptive Provisioning of Web Services, 16th International Conference on Advanced Information Systems Engineering - CAiSE2004, Latvia, June 7-11, 2004. Acceptance rate:24%
54. Liu Y.(GST), Ngu AHH. (CO), Zeng LZ., QoS Computation and Policing in Dynamic Web Service Selection, 13th International Conference on World Wide Web (alternate track), New York City, May 2004. Acceptance rate: 29%. 310 citations on Google Scholar.
55. Shen J.,(DST) Shepherd J., Ngu AHH. (CO), Huynh D., Improving Query Effectiveness for Large Image Databases with Multiple Visual Feature Combination, 9th International Conference on Database Systems for Advanced Applications (DASFAA2004), March17-19, Korea, 2004. Acceptance rate: 22%
56. Shen J (DST)., Ngu AHH., Shepherd J., Huynh D., Sheng QZ., CMVF: A Novel Dimension Reduction Scheme for Efficient Indexing in A Large Image Database (a demo paper), *ACM Special Interest Group on Data Management, SIGMOD2003*, June, San Diego, 2003. Acceptance rate: 30%
57. Benatallah B., Dumas M., Sheng QZ., Ngu AHH., Declarative Composition and Peer-to-Peer Provisioning of Dynamic Web Services, 18th International Conference on Data Engineering (ICDE2002), February, 2002. Acceptance rate: 18%. 318 citations on Google Scholar.

58. Ngu AHH.,(PA) Georgakopoulos D., Baker D., Cichocki A., Advanced Process-based Component Integration in Telcordia's Cable OSS, (a demo paper) 18th International Conference on Data Engineering (ICDE2002), February 2002. Acceptance rate: 30%
59. Zeng LZ.(DST), Benatallah B., Ngu AHH., AgFlow: Agent-based Cross-Enterprise Workflow Management System (a demo paper), *27th International Conference on Very Large Databases, VLDB2001*, Rome, Italy, September 11-14, 2001. Acceptance rate: 30%
60. Zeng LZ.(DST), Ngu AHH., Benatallah B., On Demand Business-to-Business Integration, *Ninth International Conference on Cooperative Information System (CoopIS)*, Trento, Italy, September 5-7, 2001. Acceptance rate: 25%
61. Zeng LZ.,(DST), Ngu AHH., Benatallah B., Agent-based Service Discovery for Workflow Integration, *Proceedings of the International Symposium on Information Systems and Engineering, ISE 2001*, Las Vegas, Nevada, June 25-28, 2001. Acceptance rate: 62%
62. Zeng LZ.(DST), Ngu AHH., Benatallah B., O'Dell M., An Agent-based approach for supporting Cross-Enterprise Workflows, *Proceedings of the Twelfth Australasian Database Conference (ADC2001)*, Bond University, Queensland, Australia, February 2001. Acceptance rate: 50%
63. Nodine M, Bohrer W., Ngu AHH.(CO), Semantic Brokering over Dynamic Heterogeneous Data Sources in InfoSleuth. *15th International Conference on Data Engineering (ICDE99)*, Sydney, Australia, March 23-26, 1999. Acceptance rate: 19%
64. Ngu AHH (PA)., Specification of Cooperative Constraints in Virtual Enterprise Workflow *Ninth International Workshop on Research Issues in Data Engineering: Virtual Enterprise, RIDEVE' 99*, Sydney, Australia, March, 1999. Acceptance rate: 47%
65. Nabil N.(DST), Ngu AHH., Shepherd J., An Image Retrieval System for Distributed Environments *Eighth International Workshop on Research Issues in Data Engineering: Continuous-Media Databases and Applications, RIDE'98*, Orlando, Florida, February, 1998. Acceptance rate: 50%
66. Harangsri B.(DST, Shepherd J., Ngu AHH., (CO) Selectivity Estimation for Joins Using Systematic Sampling, *8th International Conference and Workshop on Database and Expert Systems Applications (DEXA97)*, IEEE Computer Society Press, Toulouse, France, September 1-5, 1997. Acceptance rate: 50%
67. Lei R. (GST), Ngu AHH., Indexing Multi-Visual Feature in Image Database, *Fifteenth British National Conference on Databases, BNCOD15*, Birkbeck College (poster paper), University of London, July, 1997. Acceptance rate: 30%
68. Harangsri B.,(DST), (Matsushima S. (GST), Shepherd J., Ngu AHH., Handling Missing Values in Database Systems using a Naive Bayesian Classifier (a poster paper), *ACM SIGMOD Workshop on Research Issues in Data Mining and Knowledge Discovery*, Tucson, Arizona, May 11, 1997. Acceptance rate: 30%
69. Lei R. (GST), Ngu AHH., Jin J., Reducing Dimensions of Multiple Visual Features for Indexing in Multimedia Databases, *The Second International Conference on Multimedia Information System, ICMIS 97*, Schaumburg, Illinois, pp42-49, April, 1997. Acceptance rate: 50%
70. Nabil N.(DST), Ngu AHH., Shepherd J., Modeling Moving Objects in Multimedia Databases *Fifth International Conference on database Systems for Advanced Application, DASFAA'97*, Melbourne Australia, April, 1997. Acceptance rate: 30%

71. Harangsri B. (DST), Shepherd J., Ngu AHH., Query Size Estimation Using Machine Learning (II) *Proceeding of the Fifth International Conference on Database Systems for Advanced Applications (DASFAA'97)*, Melbourne, Australia April, 1997. Acceptance rate: 30%
72. Harangsri B (DST)., Shepherd J., and Ngu AHH., Query Size Estimation using Systematic Sampling, *International Symposium on Cooperative Database Systems for Advanced Applications*, Heian Shrine, Kyoto, December 1996. Acceptance rate: 50%
73. Harangsri B (DST)., Shepherd J., and Ngu AHH., Query Size Estimation using Machine Learning (I), *Proceedings of the International Conference on Artificial Intelligence (TAAI-96)*, National Sun Yat-Sen University, Kaohsiung, Taiwan, R.O.C., December 1996. Acceptance rate: 50%
74. Ngu AHH.(PA) Duong T. and Srinivasan U., Workflow Modeling using Tasks and Transactions (extended version) *7th International Conference and Workshop on Database and Expert Systems Applications*, Zurich, Switzerland, September, 1996. Acceptance rate: 50%
75. Ngu AHH (PA), Duong T. and Srinivasan U., Workflow Modeling using Tasks and Transactions *Proceedings of the NSF Workshop on Workflow and Process Automation in Information Systems*, Atlanta, USA, May 1996. Acceptance rate: 30%
76. Harangsri B.,(DST) Shepherd J., and Ngu AHH., Query Optimization in Multidatabase Systems using Query Classification, *11th Annual Symposium on Applied Computing (SAC' 96)*, Philadelphia, Pennsylvania, February 1996. Acceptance rate: 30%
77. Harangsri B (DST)., Shepherd J., and Ngu AHH., Query Classification in Multidatabase Systems, *Seventh Australasian Database Conference Proceedings*, Melbourne Australia, January 1996. Acceptance rate: 40%
78. Shepherd J., Harangsri B.(DST), Chen HL and Ngu AHH., A Two-Phase Approach to Data Allocation in Distributed Databases, *4th International Conference on Database Systems for Advanced Applications, DASFAA'95*, Singapore, April, 1995. Acceptance rate: 30%
79. Nabil M. (DST), Shepherd J., and Ngu AHH, 2D Projection Interval Relationships: A Symbolic Representation of Spatial Relationships, *Fourth International Symposium on Large Spatial Databases, SSD'95*, Boston, August, 1995. Acceptance rate: 30%
80. Gedeon TD., Koczy LT., Ngu AHH., Bustos RA.(UGRST), and Shepherd JA, Learning Fuzzy Measure Functions for Information Retrieval, *Proceedings of the International Joint Conference of the 4th IEEE International Conference on Fuzzy Systems and the 2nd International Fuzzy Engineering Symposium (FUZZ-IEEE/IFES'95)*, Yokohama, 1995.
81. Srinivasan U.(DST), Ngu AHH., Information Re-engineering for Cooperative Clinical Information Systems, *2nd International Conference on Application of Databases*, Ed: M. Borges, M. Ketabchi and R. Krishnamurthy, Santa Clara, pp107-119, December, 1995. Acceptance rate: 30%
82. Ngu AHH. (PA), Meersman R., Weigand H., Specification and Verification of Communication Constraints for Interoperable Transaction, *2nd International Conference on Cooperative Information Systems*, Toronto, 1994 (One of the top five best papers). Acceptance rate: 25%.
83. Ngu AHH. (PA), Gedeon T and Shepherd J., Discovering Indexing Parameters for Information Filtering, *Second Singapore International Conference on Intelligent Systems*, Singapore, November 1994. Acceptance rate: 50%
84. Nabil M.(DST), Ngu AHH., Shepherd J., Modeling of Spatio-temporal Relationships in Multimedia Databases, *IEEE workshop on Spatial and Temporal Interaction: Representation and Reasoning*, Singapore, November 1994. Acceptance rate: 50%

85. Nabil M.,(DST) Ngu AHH., Shepherd J., A Unified Representation of Spatial and Temporal Information in Multimedia Database, *Third International Conference on Automation, Robotics and Computer Vision*, Singapore, November, 1994. Acceptance rate: 50%
86. Srinivasan U.(DST), Ngu AHH. and Gedeon T., Discovery of Generic Concepts from Heterogeneous Clinical Information Systems, *Second International Conference on Intelligent Systems*, Singapore, November 1994. Acceptance rate: 50%
87. Lee N. (UGRST), Ngu AHH.(CO), Srinivasan U., A Hypertext Approach to Querying Clinical Multidatabases, *5th International Hong Kong Computer Society Database Workshop*, Hong Kong, February, 1994. Acceptance rate: 30%
88. Ngu AHH.(PA), Yan LL., Wong LS., Heterogeneous Query Optimization using Maximal Subqueries, *The Third International Symposium on Database Systems for Advanced Applications*, Daejon, Korea, 1993. Acceptance rate: 30%
89. Ngu AHH. (PA), Wong LS., PINOL: Persistent Object Oriented Database Programming Language, *The Third International Symposium on Database Systems for Advanced Applications*, Daejon, Korea, 1993. Acceptance rate: 30%
90. Duong T., Hiller J., Ngu AHH., Contracting Mechanism: Dynamic and Flexible Way to Integrate Information, *1st International Conference on Intelligent and Cooperative Information Systems*, May 12-14, Rotterdam, Netherlands, 1993.
91. Dijkstra JM., Ngu AHH., Ariadne: A Standard Compliant and Integrated Electronic Document Delivery System, *17th International Online Information Meeting*, London, England, December, 1993. Acceptance rate: 25%
92. Harangsri B. (DST), Ngu AHH., A New Heuristic for Data Allocation. *Proceedings of the International Symposium on Next Generation Database Systems and Their Applications*, Japan, September, 1993. Acceptance rate: 25%
93. Ngu AHH.(PA), Shepherd J., How to deal with 10,000 news items per day: an Intelligent Assistant for Newsreading, *Proceedings of the Inaugural Australian and New Zealand Conference on Intelligent Information Systems*, Perth, Australia, December, 1993. Acceptance rate: 50%
94. Gedeon T., Ngu AHH.(CO), Index Generation is Better than Extraction, *Proceedings of the International Conference on Non-linear Theory*, Hawaii, 1993.
95. Duong T., Hiller J., Ngu AHH., Information Integration through Contract, *The Third International Symposium on Database Systems for Advanced Applications*, Daejon, Korea, April, 1993. Acceptance rate: 30%
96. Ngu AHH.(PA), Wong LS., and Widjojo S., On Canonical and Non-Canonical Classifications, *The 2nd International Conference on Deductive and Object-Oriented Databases, DOOD91*, Lecture Notes in Computer Science, Springer-Verlag, Munich, Germany, 1991. Acceptance rate: 25%
97. Ngu AHH.(PA), Transaction Modeling, *5th International Conference on Data Engineering, ICDE89*, Los Angeles, 1989. Best Student Paper award. Acceptance rate: 20%
98. Ngu AHH.(PA), Data Modelling through Quasi-natural Language, *Proceedings of the 10th Australian Computer Science Conference*, Victoria, Australia, page:57-67, 1987. Acceptance rate: 40%

99. Ngu AHH. (PA), Morris J., An Experiment in Program Generation, *Proceedings of the 6th Australian Computer Science Conference*, Sydney, Australia, 1983. Acceptance rate: 40%

b. Non-refereed:

1. Ngu AHH.(PA), Role of Multibrokers in Electronic Commerce, *Second International Workshop on Technological Challenges of Electronic Commerce*, Beijing, China, May 17-23, 1999. Given as an invited talk.
2. Ngu AHH.(PA), Shepherd J., and Yamamoto T., A Fuzzy Model for Information Retrieval, *3rd International Conference on Fuzzy Logic, Neural Nets and Soft Computing*, August, 1994.
3. Gedeon T., Hiller J., Ngu AHH.(PA), Storage and Visualization of Medical Images - From Scanner to Database to Display, *Australia and New Zealand Association for the Advancement of Science Congress*, Perth, 1993.

4. Abstracts:

1. Kabir, M.S., Ngu A.H., TransConv-DDPM (2025): Time Series Data Generation with Diffusion, *IEEE Pulse*, 16(1).
2. Chow, T.E., Ngu AHH., Lin Y., Phillips C.(GST), Thornhill S.(GST), "Record Linkage of Web Demographics as a GeoComputation Challenge", In the Workshop on Volunteered Geographic Information in Advancing Science: Quality and Credibility, GIScience 2012 September 2012.
3. Ngu AHH. (PA), Chin G., Critchlow T., "Context-Aware Actors", Ninth Biennial Ptolemy Mini-conference, Berkeley, February 16th, 2011.
4. Ngu AHH. (PA), West S., Kepler-Discovery: An open source cyber-learning resource for AP Environmental Science, Texas Academy of Science, Junction, Texas, March, 2009.
5. Ngu AHH. (PA), Haasch N., Critchlow T., Bowers S., McPhillips T., Ludaescher B., Flexible Scientific Workflow through Dynamic Embedding, Ptolemy II Mini Conference 2007, Berkeley, Alpha
6. Ngu AHH.(PA), Shepherd J., and Magin D., Engineering Peers: Computer-Assisted Approach to the development of Peer Assessment System, *Research and Development in Higher Education 18: Blending Tradition and technologies, HERDSA 95*, Rockhampton, Queensland, 1995.
7. Andresen L., Ngu AHH., et al. Testing the Limits of Autonomy: The Participant-led Workshop, *Research and Development in Higher Education 17: Higher Education in Transition, HERDSA 94*, Canberra, 1994.

5. Reports:

1. Ngu AHH.(PA), Gu Q., Peng Q., Roberts M., ActionItem: Collaboration through Commitment and Social Tasking, Department of Computer Science, Texas State Report Number (TXSTATE-CS-TR-2009-11)

2. Ngu AHH. (PA), Haasch N., Critchlow T., Bowers S., McPhilips T., Ludaescher B., Flexible Scientific Workflows Using Frames and Dynamic Embedding, *Department of Computer Science, Texas State Report Number (TXSTATE-CS-TR-2007-7)*, April 2007. 202 download to date.
3. Ngu AHH. (PA), Rocco D., Critchlow T., Buttler D., Automatic Discovery and Inferencing of Complex Bioinformatics Web Interfaces, *Lawrence Livermore National Laboratory Technical Report (UCRL-JRNL-201611)*, December 2003.
4. Ngu AHH. (PA), Ooi BC. & Wong LS., Types and Classes as Distinct Modelling Concepts in an Object-Oriented Data Model, *Institute of Systems Science, National University of Singapore, TR90-49-0*, pages:31, 1990.
5. Lim JJ., Ngu AHH. & Ooi BC., Visual Programmatic Interface to Object, *Institute of Systems Science, National University of Singapore, TR90-36-0*, pages:24, 1990.
6. Ngu AHH. (PA), An Integrated Data and Transactions Modelling Environment, *Department of Computer Science, University of Western Australia, TR89-1*, pages:21, 1989.

6. Book Reviews:

1. Mike P. Papazoglou, *Web Services: Principles and Technology*, Pearson, Prentice Hall, 2006

7. Other (papers under preparation):

B. Works not in Print

1. Papers Presented at Professional Meetings (since 2010):

- Ngu, A., The 48th IEEE International Conference on Computers, Software, and Applications (COMPSAC 2024), "An Empirical Study on AI-Powered Edge Computing Architectures for Real-Time IoT Applications," IEEE, Osaka University, Osaka, Japan. (July 2024).
- Ngu, AHH., "Fall Detection Technologies", Aging Conference in Texas, Austin, July 2024
- Ngu, AHH., "Experimental and Analysis of Ensemble Deep Learning for Fall Detection," VLIoT 2019: International Workshop on Very Large Internet of Things, Westin Bonaventure Hotel, Los Angeles, CA, United States. (August 2019).
- Ngu, AHH., "Smartwatch-based IoT Fall Detection Application," VLIoT 2018: International Workshop on Very Large Internet of Things, Windsor Barra Hotel, Rio De Janeiro, Brazil. (August 2018).
- Ngu, AHH., "Fall Detection using Smartwatch Sensor Data with Accessor Architecture," International Conference on Smart Health (iCSH 2017), Hong Kong City University, Hong Kong, China. (June 2017).
- Ngu, AHH., Social-PPM: Personal Experience Sharing and Recommendation, IEEE 2nd International Conference on Collaboration and Internet Computing, (CIC2016), Pittsburg, USA, November, 2016.

- Ngu, AHH., Cloud Armor: A Platform for Credibility-Based Trust Management of Cloud Services, ACM Conference on Information and Knowledge Management (CIKM 2013), San Francisco, USA, 2013.
- Ngu, AHH., A Crawler Engine for Cloud Services Discovery on the World Wide Web, International Conference on Web Services (ICWS 2013), Santa Clara, USA, June 2013.
- Ngu, AHH., Chin G., Critchlow T., "Context-Aware Actors", Ninth Biennial Ptolemy Mini-conference, Berkeley, February 2011.
- Hoang D.T., Paik HY., Ngu AHH., Spreadsheet as a Generic Purpose Mashup Development Environment, International Conference on Service Oriented Computing (ICSOC10), San Francisco, USA, December 2010.

2. Invited Talks, Lectures, and Presentations (since 2002):

- Ngu, AHH., "Overview of the Computer Science PhD Program," Recruitment Event, STAR Park (December 2025).
- Ngu, AHH., "Real-World Fall Detection with Commodity Devices," School of Computing, Macquarie University, Sydney, Australia. (July 2025).
- Ngu, AHH., University of Houston, "Fall Detection in the Real-World," Department of Biomedical Engineering, Houston, Texas, Houston, TX. (October 2024).
- Ngu AHH., "Fall Detection Technologies", Price Center, an intergenerational Community Center, San Marcos, Feb 2024.
- Ngu, AHH., ARM Corporation, "SmartFall System," ARM Corporation, Austin, Austin, TX, United States. (October 2023).
- Ngu AHH., "P-Fall: Personalization Pipeline for Fall Detection on Wearables", Health Scholar SHOW CASE, Texas State University, March, 2023.
- Ngu, AHH., "Experimental Analysis of Ensemble Deep Learning for Fall Detection and Overview of PhD program," Faculty of Science and Technology, University of Malaysia, Sarawak. December 2022.
- Ngu, AHH., "Experimental Analysis of Ensemble Deep Learning for Fall Detection", School of Computing, Macquarie University, Australia, April 2022.
- Ngu, AHH., "Edge Cloud Collaborative Framework for Personalized Fall Detection", Department of Computer Science, Sydney University, Australia, March 2022.
- Ngu, AHH., "Edge Cloud Collaborative Framework for Personalized Fall Detection", Department of Computer Science, San Jose State University, February 2022.
- Ngu, AHH., "Ensemble Deep Learning for Fall Detection," UT Dell Medical School, Austin, TX, United States. October 2019
- Ngu, AHH., "Overview of the Computer Science PhD Program," REU students, Comal Building Rm212. (August 2018).
- Ngu, AHH., "Overview of the Computer Science PhD Program," Computer Science, Comal Building Rm 212. (December 2017).

- Ngu, AHH., "Computer Science Program Presentation to MGO," University Advancement Monthly MGO Meeting, JCK. (September 2017).
- Ngu, AHH., "Overview of the Computer Science PhD Proposal," Texas Higher Education Coordinating Board Team Visit, Computer Science Department. February 2017.
- Ngu, AHH., Multidisciplinary Research Experiences for Undergraduates in Internet of Things, poster presentation at Pan-REU Workshop in Washington D.C., (April 2016)
- Ngu, AHH., Computer Science PhD Proposal, presentation to the University Curriculum. (March, 2016).
- Ngu, AHH., Computer Science PhD Proposal, presentation to the Department's Advisory Board. (April, 2016).
- Ngu, AHH, Context-Aware IoT Middleware and Applications, The Australian E-Health Research Center, CSIRO, Brisbane, Australia. (November 2015).
- Ngu, AHH, Context-Aware IoT Middleware and Applications, Royal Melbourne Institute of Technology (RMIT), Melbourne, Australia. (December 2015).
- Ngu AHH., Why REU? REU presentation at CS Major Welcome Day, 2014
- Ngu, AHH, Challenges and Opportunities in Computer Science, Faculty Speaker at SPARK Scholar Orientation Day, 2013
- Ngu, AHH, Research preparation for successful REU, Panel member, NSF REU Site 2013 Meeting, March 2013.
- Ngu, AHH., REU-IR Program, Computer Science Department EXE Society, 2012.
- Ngu AHH, Context-aware scientific workflow, School of Computing, National University of Singapore, January 2011.
- Ngu AHH., Context-aware scientific workflow, Computer Science Industry Advisory Board Meeting, November 2010.
- Ngu AHH., Context-Annotation, Pacific Northwest National Laboratory, July 2010.
- Ngu AHH., Flexible Scientific Workflows Modeling using Frames, Templates and Dynamic Embedding, *The Cyber Center*, Purdue University, West Lafayette, April 30th, 2009.
- Ngu AHH., Automatic Discovery and Classification of Web Sources, *Department of Computer Science, University of Binghamton*, NY, November 2008.
- Ngu AHH., Flexible Scientific Workflows Modeling using Frames, Templates and Dynamic Embedding, *ICT Center, CSIRO*, Canberra, Australia, August 2008.
- Ngu AHH., Automatic Discovery and Classification of Web Sources, *School of Computer Science and Engineering, University of New South Wales*, Australia, July 2008.
- Ngu AHH., Automatic Discovery and Classification of Web Sources, *Department of Mathematics, Texas State*, April 2007.

- Ngu AHH., Automatic Discovery and Classification of Web Sources, *SPAWAR Systems Center*, San Diego, June 2005.
- Ngu AHH., Automatic Discovery and Classification of Web Sources, *Texas State, Department of Computer Science*, April 2005.
- Ngu AHH., Process-based Approach to Semantic B2B Integration, *Virginia Tech, Computer Science Department, Fall Church*, December 2003.
- Ngu AHH., Semantic Brokering over Dynamic Heterogeneous Web Resources, *Texas State, Department of Computer Science*, October 2002.
- Ngu AHH., An Advanced Process Integration Infrastructure, *Lawrence Livermore National Laboratory*, May 2002.
- Ngu AHH., Process-based Approach to Semantic B2B Integration, *Oracle Corporation, USA*, February 2002.

3. Consultancies:

2015-2017, GeneticEve, Austin, Tx, United States

- Provide technical advice for the design and implementation of personalized wellness program based on a person genetic heritage.

9/1999-6/2000, Innovit Technologies Pty Ltd, Sydney, Australia

- Led the design and specification of a cross-enterprise web service composition engine based on a semantic multi-brokering approach. This helped the client to secure \$244,900 in competitive government funding.
- Supervised the implementation of a semantic multibroker prototype using EJB, XML, Microsoft Access and CORBA technologies.

1/1999-6/2000, JustWin Technology Pty Ltd, Sydney, Australia

- Led the design and specification of a change management tool for Justwin's Lotus Domino-based workflow engine. This helped the client to secure \$262,560 in competitive government funding.

5. Other:

Other Works Not in Print:

Posters:

Ngu, AHH., 2018 Health Scholar Showcase, "Fall Detection using Commodity Smartwatches," Texas State University, Performing Arts Center, San Marcos. (February 2018).

C. Grants and Contracts

,

1. Funded External Grants and Contracts:

1. Ngu, AHH. (PI), Supplementary Funding for *Collaborative Research: SCH: Personalized Watch-based Fall Risk Analysis and Detection with Cross Modal Learning*. Federal, **NSF CISE**, \$16,000 (January, 2024-December 2024).
2. Ngu, AHH. (PI), Chang, J. (Co-I), Chee, K. H. (Supporting), Milton, J. (Supporting), *Collaborative Research: SCH: Personalized Watch-based Fall Risk Analysis and Detection with Cross Modal Learning*, Sponsored by **NSF-CISE, NIH**, Federal, \$910,249.00. (September 1, 2021 - August 31, 2026).
3. Metsis, V. (PI), Ngu, AHH. (Co-PI), Gao, J. (Co-PI), Shi, H. (Co-PI), Guirguis, M. S. (Co-PI), Gu, Q. (Co-PI), *Graduate Assistance in Areas of National Need (GAANN)*, Sponsored by **U.S. Department of Education**, Federal, \$728,150.00. (October 1, 2021 - September 30, 2025).
4. Ngu, AHH. (PI), Yang, K. (CoPI), *REU SITE: Research Experiences for Undergraduates in Edge Computing*, Sponsored by **NSF-CISE**, Federal, \$359,998.00. Recommended for funding: (February 2022 - February 2026). Grant.
5. Metsis, V. (PI), Ngu, A. (Co-PI), "High-Performance Computing GPU Server for Machine Learning Research," **Sponsored by MARC**, Texas State University, \$49,512.00. (September 20, 2022 - 2022).
6. Ngu, AHH. (PI), Guowei Y. (Co-PI), *REU SITE: Research Experiences for Undergraduates in Software Systems and Analysis*. (G) **NSF-CISE**, total funding was \$360,000. Program duration is 1/1/2017-2/18/2020.
7. Ngu AHH.(PI), Gao B (Co-PI)., *RET Supplements to REU Site Award (G): Multidisciplinary Research Experiences for Undergraduates in Internet of Things*. **NSF-CISE**, total funding awarded was \$20,000. Program duration is 3/1/2016-2/18/2018.
8. Ngu AHH. (PI), Gao B (Co-PI)., *REU SITE: Multidisciplinary Research Experiences for Undergraduates in Internet of Things (G)*. **NSF-CISE**, total funding awarded was \$323,481. Program duration is 3/1/2014-2/18/2018.
9. Lu Y. (PI), Ngu AHH. (Co-PI), Gao B.(Co-PI), Chen X.(Co-PI), Qsaem A.(Co-PI), *II-NEW: Shared High Performance Data Center*, **NSF CISE CRI** Program. Total awarded is \$375,756, program duration is 2013-2018.
10. Ngu AHH.(PI), *Pilot Implementation of System for Innovation in Personalized Health Monitoring (C)*, **GeneticEve LLC**. Total Awarded is \$20,715, 2015-2017
11. Ngu AHH.(PI), *NCWIT Undergraduate Research Mentoring Award sponsored by AT&T (GFT)*., Total Awarded is \$5000, 2013
12. Ngu AHH. (PI), Gao B. (Co-PI), *REU Site: Research Experiences in New Paradigms of Information Retrieval from Diverse Data (G)*, **NSF-OCI**. Total awarded is \$359,827. Award # OCI-1062439. Program duration was from 3/1/2011-2/28/2014.
13. Lu Y. (PI) , Ngu AHH. (Co-PI), Gao B., Mckenney M., *II-NEW: Shared High Performance Data Center (G)*. **NSF-CISE CRI**. Total awarded is 50K. Program duration was from 2/1/2011/ to 1/1/2013.
14. Ngu AHH.(PI), *Context-Aware Generic Actors*, **Pacific Northwest National Laboratory** valued at \$80,000 (DE-AC05-76RL01830). Program duration was from 2008-2010.

15. Sheng QZ. (PI), Ngu AHH. (Senior Personnel) *Australian Research Council Discovery Grant* valued at \$216,354 for research in developing a platform for rapid and flexible development of context-aware web services in 2007.
16. Ngu AHH. (PI), *Large Australian Research Council SPIRT Grant* valued at \$244,900 (excluding contribution from the industry partner) for research in semantic multi-brokering over dynamic heterogeneous workflows in 2001.
17. Ngu AHH. (PI), *Large Australian Research Council SPIRT Grant* valued at \$262,560 (excluding contribution from the industry partner) for research in managing changes in dynamic workflow environment in 2000.
18. Ngu AHH. (PI), *Small Australian Research Council Grant* valued at \$15,000 for indexing and retrieval of images from very large collections in 1998.
19. Ngu AHH.(Co-PI), *Small Australian Research Council grant* valued at \$30,000 for operating system support for object-oriented databases in 1997 and 1998.
20. Ngu AHH. (PI), *Small Australian Research Council grant* valued at \$15,000 for research on cooperative transaction models in 1995.
21. Ngu AHH. (Co-PI), *Australian Telecommunication & Electronic Board (ATERB) Grant*, valued at \$11,000 for research work in consistent indexing in 1994.
22. Ngu AHH. (Co-PI), *Small Australian Research Council Grant* valued at \$13,000 on automatic indexing for intelligent document retrieval in 1994.

3. Funded Internal Grants and Contracts:

1. Ngu, AHH. (PI), "Cross-Modal Learning of Gaits and Balances with Joint-Aware Latent Diffusion Framework", Texas State University, Research Enhancement Grant, \$12,000.00. (December 2025 - December 2026).
2. Kisi, K. P. (PI), Ngu AHH., (Co-PI), "Collaborative: Safety and injury risk prediction using machine learning in construction and general industries," Sponsored by Texas State University, Texas State University, \$100,000.00. (September 2023 - August 2025).
3. Ngu, AHH.. (PI), "Exploring Real-World Fall Detection," Sponsored by Texas State University, Texas State University, \$100,000.00. (September 2023 - August 2026).
4. Ngu AHH. (PI), *Research Enhancement Program, Texas State* valued at \$US 8000 for Process-based Approach to Cross-Enterprise Process Integration in 2002.
5. Ngu AHH. (PI), *Special Research Grant* valued at \$8000 for Multimedia Database in 1996 at UNSW.
6. Ngu AHH. (PI), *Infrastructure Grant* valued at \$35,000 for object-oriented databases research in 1994 at UNSW.

D. Scholarly/Creative Fellowships, Awards, Honors:

Award / Honor Recipient: Most Influential Paper of IEEE Transactions of Software Engineering's 3rd decade. 2025

Award / Presidential Distinction Award for Excellence in Scholarly/Creative Activities, Texas State University.

2022

Award / Honor Recipient: College Runner Up for Presidential Award for Excellence in Scholarly/Creative Activities, Texas State University.

2010

Award / Honor Recipient: Special Developmental Leave Award, Texas State University.

2008

Award / Honor Recipient: College Runner Up for Presidential Award for Excellence in Scholarly/Creative Activities, Texas State University.

2006

2004

Fellowship Recipient: ITK Research Fellow, Tilburg University, The Netherlands.

1993

Award / Honor Recipient: Best Student Paper, IEEE International Conference on Data Engineering.

1989

Award / Honor Recipient: University Research Studentship, University of Western Australia.

1986

Award / Honor Recipient: E.M. Russell prize- for academic achievement, St. Catherine College, Perth, Australia.

1982

E. Scholarly / Creative Professional Development Activities Attended (since 2006):

NSF Panel Meeting (2009-2025)

Conference Attendees, "VLDB Conference", Los Angeles, USA (August 2019)

Workshop, "Digital 360 Summit," Texas State University, San Marcos, United States. (May 21, 2019).

Workshop, "Material With Intelligence (MWI) Meeting", Texas State University, Star Park, TX, United States. (March 2, 2019).

Conferencie Attendees, "VLDB Conferencie", Rio De Janeiro, Brazil. (August 2018)

Workshop, "Health Scholar Showcase," Texas State University, San Marcos, United States. (2023).

Workshop, "Health Scholar Showcase," Texas State University, San Marcos, United States. (2018).

Workshop, "Health Scholar Showcase," Texas State University, San Marcos, United States. (2017).

Workshop, "Speed Networking for Researchers Event," Texas State University, San Marcos, United States. (2016).

Conference Attendees, "ACM SIGMOD Conference," ACM, San Francisco, CA, United States. (June 2016).

Workshop, "Impact Day- Building a Deeper Computer Science Talent Pool." (September 5, 2014).

Conference Attendees, "ACM CIKM Conference", 2013, CA, USA.

Workshop, "PhD Proposal Writing," Texas State University. (January 2013).

Workshop, "Fullbright Program Workshop," Texas State University, San Marcos, TX, United States. (2012).

Workshop, "17th Annual Central Texas Women Profiles in Power and Women of Influence Event." (July 14, 2011).

Conference Attendees, ICSOC 2010 Conference, San Fransico, CA.

Workshop, "Texas Research Exchange Fest at Texas A&M," Texas A&M University, College Station, TX, United States. (September 2008).

Workshop, "NSF Grant Workshop," Texas State University- College of Science, San Marcos, TX, United States. (August 2006).

F. Media Recognition:

Magazine, IEEE Transactions on Software Engineering most influential paper. (2025).

Magazine, The AI Most Influential Scholar Annual List (AMiner.org). (2022).

Newspaper, Texas State Professor Enhancing Safety for Older Adults Through Technology. (June 2022).

IV. SERVICE

A. Institutional

1. University:

2023-2023.	Member, Search Committee of VPIT at Texas State
2018-2023	Member, International Advisory Council at Texas State
2015-2015	Organizer, External Computer Science PhD Proposal Review Team Site Visit
2014-2014	Panel member, Mentoring Workshop, Academic Development & Assessment
2009-2016	Member, Library Committee, Texas State.
2006-2010	Member, Asian Studies Board of Advisors, Texas State.
2004-2005	Member, RRHEC Incentives Committee, Texas State.

2. College:

2014 -2015	Member, Dean Summative Review Group at Texas State
2012-2015	Member, College Review Group at Texas State
2017- present	Member, Graduate Council, Texas State

2007-2009	Member, College of Science REP Committee, Texas State (Secured nine REP funding for CS in 2007 and 2008).
1996-1999	Member, Engineering Faculty Promotion Committee, UNSW.
1968-1999	Member, Engineering Faculty Information Technology Committee, UNSW. This committee is responsible for developing policy for Engineering Faculty (College) IT Infrastructure.
1996-1999	Member, Engineering Faculty International Committee, UNSW. This committee is responsible for developing strategies for joint marketing and development of short courses with leading universities in the Asia region.
1999	Member, School of Electrical Engineering Recruitment Committee, UNSW.
1998	Member, School of Civil Engineering Recruitment Committee, UNSW.
1996	Member, Engineering Faculty Tenure Committee, UNSW.
1996	Participant, Participated in Engineering Faculty UNIPREP program for female engineers, UNSW. Presented to the first year female engineering students about computer science career.
1996	Participant, provided technical advice for setting up a database for Women in Research Network at UNSW.

3. Department:

2020- present	Chair, Teaching Assistant Assignment Committee, Texas State
2017- present	Member, Academic Program Assessment Committee, Texas State
2017- 2024	Program Director, Computer Science PhD Program, Texas State
2017- present	Chair, PhD Program Committee, Texas State.
2023-2024	Member, Graduate Program Self Review Committee, Texas State
2016,-2019, 2026	Member, Faculty Recruitment Committee, Department of Computer Science, Texas State.
2017-2019	Member, NCWIT Extension Services, Department of Computer Science, Texas State.
2011 – 2024	Director/co-director, Research Experiences for Undergraduates (REU) Site Program at Texas State
2011-2015	Chair, Faculty Recruitment Committee, Department of Computer Science, Texas State.
2011-2012	Chair, Policy and Procedure Committee, Department of Computer Science, Texas State.
2011-2012	Chair, Library Committee, Department of Computer Science, Texas State.
2011-present	Member, Space Committee, Department of Computer Science, Texas State.
2007-2016	Member, Policy and Procedure Committee, Department of Computer Science, Texas State.
2009-2011	Chair, Graduate Curriculum Committee, Department of Computer Science, Texas State.
2006-2007	Member, Academic Honesty Committee, Computer Science Department, Texas State.
2005-present	Member, Personnel Committee, Department of Computer Science, Texas State
2005-2007	Member, Chair Search Committee, Computer Science Department, Texas State.
2003-2008	Seminar organizer, Department of Computer Science, Texas State. Organized monthly computer science seminar. Also hosted one College of Science seminar by Dr. Moshe Vardi who was the president of ACM
2003-2024	Participated in Graduate Comprehensive Examination, Texas State. Contributed questions, assessed, and proctored exams.
2002-present	Member, Graduate Curriculum Committee, Department of Computer Science, Texas State. Duties include approval of new graduate course and policies for graduate admission and examination.

2002-2003	Member, Department Self-Review Committee, Department of Computer Science, Texas State. Authored the section on departmental services.
2000-2000	Member, School of Computer Science and Engineering Recruitment Committee, UNSW.
1996-1998	Member, School of Computer Science and Engineering Grant Review Committee, UNSW.
1996-1998	Member, School of Computer Science and Engineering Space Committee, UNSW.
1996-1998	Member, School of Computer Science and Engineering Graduate Course Committee, UNSW.
1996	Acting Head, Department of Information Science, UNSW.
1993	Member, School of Computer Science and Engineering Undergraduate Curriculum Committee, UNSW.
1993-1994	Seminar Coordinator, School of Computer Science and Engineering UNSW.

B. Community:

Examiner, University of Sydney, Ph.D. Dissertation Examiner, Sydney, New South Wales. (March 2023).

Examiner, Swinburne University of Technology, master's thesis, Melbourne, Victoria (June 2022).

Faculty mentor, CS Doctoral Student Organization, Computer Science, Texas State (2020-2023)

Faculty Mentor, SPARK Program at Texas State. (2012 - 2017).

Panelist, NSF Panel. (2009, 2010, 2012, 2013, 2014, 2016, 2017, 2018, 2022, 2023, 2025).

Speaker, St. Stephen's Episcopal School Computer Science class, Austin, TX. (April 2017).

Children Sunday school teacher, Austin Chinese Church, Austin, TX. (2007 - 2019).

Reviewer, NCWIT ACM-W Seed Fund Startup. (2016).

Reviewer, Anita Borg Institute Grace Hopper Scholarships. (2015).

Member, STEM Academy at Stony Point High School Advisory Committee, Austin, TX. (2012).

Science Fair Judge, Harmony School of Science, Austin, TX. (2011).

Panelist, Ann Richards School for Young Women Leaders, San Marcos, TX. (October 2008).

Examiner, University of Western Sydney- Ph.D. Dissertation Committee, Sydney. (February 2008).

External Reviewer, Israel National Science Foundation. (2004).

Examiner, Queensland University of Technology-Ph.D. Dissertation Examiner, Brisbane, Queensland. (May 2000).

External Reviewer, Australian Research Council. (1999).

External Reviewer, Cooperative Information Systems Center- Queensland University, Brisbane, Queensland. (November 1999). Appointed by the Dean of Information Technology of Queensland University of Technolog.

Examiner, University of Wollongong-Ph.D. Dissertation Examiner, Wollongong, New South Wales. (January 1998).

Examiner, Australian National University-Ph.D. Dissertation Examiner, Canberra. (January 1995).

C. Professional:

1. Served as Chair position:

1. Co-Chair, NCWIT Undergraduate Research mentoring Award, 2015-2016
2. Workshop Chair of 9th IEEE International Conference Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2013), Austin, Texas
3. Program Co-Chair, International Workshop on Internet of Things (C-IOT 2013, C-IOT2014), Austin, Texas
4. Key planning committee members, 3rd Women in Science and Engineering Conference at Texas State University, 2010-2011
5. Co-Program Chair, WISE2005 - 6th International Conference on Web Information Systems Engineering, New York City, New York.
6. Publication Chair, ICDE2002 - 18th International Conference on Data Engineering, San Jose, CA.
7. Organization Chair, ICDE1999 - 15th International Conference on Data Engineering, Sydney, Australia. For this service, I was bestowed with an Outstanding Contribution Award by the IEEE Data Engineering Steering Committee.
8. Session Chair, ICDE1998 - 14th International Conference on Data Engineering,
9. Symposium Chair, UNSW Symposium (1997) on Next-Generation Data Management Systems.

2. Served as Program Committee Member of the following conferences (complete list on my website: <https://userweb.cs.txstate.edu/~hn12/professional.html>):

1. ACM Multimedia 2025, Dublin, Ireland, October, 2025
2. 43rd International Conference on Conceptual Modelling, CMU, Pittsburgh, October, 2024
3. International Conference on Health Informatics - HEALTHINF 2024, Rome. (2023, 2025, 2026)
4. PerIoT, International Workshop on Mobile and Pervasive Internet of Things, 2017, 2018, 2019, 2021
5. The International Conference on Service-Oriented Computing (ICSOC), 2005, 2016, 2017, 2018, 2019, 2020, 2021, 2022.
6. IEEE International Conference on Collaboration and Internet Computing (CIC), Philadelphia, United States (2017, 2018)
7. EUSPN 2018- The 9th International Conference on Emerging Ubiquitous and Pervasive Networks Emerging, Luven, Belgium. (March 2018 - November 2018).

8. The International Conference on Web Information Systems Engineering (WISE), 2011, 2012, 2013, 2008, 2007
9. 3rd International Workshop on Collaborative Cloud (CollabCloud 2014)
10. BPSC2012 – Business Process and Service Computing, May, Lithuania.
11. USECA2011– The First International Workshop on User-focused Service Engineering, Sydney, Australia
12. ODBASE2010– The 9th International Conference on Ontologies, Databases, and Applications of Semantics, October, Greece, 2010.
13. CollaborateCom 2007 -2011- The International Conference on Collaborative Computing,
14. WAIM2010, 2013- The International Conference on Web Age Information Management,
15. ICEBE 2010 – The Seventh International Conference on e-Business Engineering, Shanghai, China. November 2010.
16. ENASE. International Conference on Evaluation of Novel Approaches to Software Engineering, 2009-2012.
17. Business Process and Services Computing (BPSC 2010), September, Leipzig, Germany, 2010.
18. ICEBE 2009 – The Sixth International Conference on e-Business Engineering, Macau, China, October, 2009.
19. WDPP09 – First International Workshop on Data and Process Provenance, Brisbane, Australia, April, 2009.
20. ICSOC08 - The Sixth International Conference on Service-Oriented Computing, Sydney, Australia.
21. ICEBE 2008 – The Fifth International Conference on e-Business Engineering, Xi'an, China.
22. CSSSIA2008 - The International Workshop on Context Enabled Source and Service Selection, Integration and Adaptation, Beijing, China.
23. PDCAT2008 - The 9th International Conference on Parallel and Distributed Computing, Applications and Technologies, Dunedin, New Zealand.
24. WAIM2008 - The 9th International Conference on Web Age Information Management, Zhangjiajie, China.
25. APWeb2006 - The Eight Asia-Pacific Web Conference
26. BPM-2005 - The 3rd International Conference on Business Process Management.
27. APWeb2005 - The Seventh Asia-Pacific Web Conference.
28. WEC2004 - IEEE International Workshop on Electronic Contracting.
29. SCC2004 - IEEE International Conference on Services Computing.

30. WSABE-2004 - International Workshop on Web Services and Agent-based Engineering.
31. WISE2004 - Fifth International Conference on Web Information Systems Engineering.
32. RIDE-WS-ECEG 2004 - 14th International Workshop on Research Issues on Data Engineering
33. VLDB-TES2003 - International Conference on Very Large Data Bases - workshops on technologies for E-services.
34. WISE2003 - Fourth International Conference on Web Information Systems Engineering.
35. WSABE-2003 - International Workshop on Web Services and Agent-based Engineering.
36. CIKM2001 - Tenth International Conference on Information and Knowledge Management.
37. ADC (94,95,98,2000,2001) - Australasian Database Conferences.
38. RIDE-VE1999 - 9th International Workshop on Research Issues in Data Engineering - VirtualEnterprise.
39. EDBT-WFM1998 - International Workshop on Workflow Management.
40. ODER-1995 - International Conference on Object-Oriented and Entity-Relationship Modeling.
41. CoopIS (1994-1995) - International Conference on Cooperative Information Systems.
42. IFIP-DS6 (1995) - International Federation of Information Processing (Data Semantics).

3. Served as Reviewer/Editor for the following Journals/Conferences/Awards:

1. Associate Editor, IEEE Transactions in Service Computing, (2024-present)
2. Member, TCSVC Research Innovation Award Committee in the field of Service Computing (2025)
3. Reviewer / Referee, ACM Transactions on Computing for Healthcare. (2023).
4. Reviewer / Referee, ACM Transactions on Internet Technology. (2023).
5. Reviewer / Referee, Elsevier Information Fusion. (2023).
6. Reviewer / Referee, Elsevier Knowledge System. (2023).
7. Reviewer / Referee, Pattern Recognition Letters. (2023)
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16. IEEE Journal of Internet of Things, 2018
17. Future Generation Computer (Elsevier), 2016
18. IEEE Journal of Biomedical and Health Informatics, 2014
19. Journal of Data Mining and Digital Humanities, 2014
20. Editor of special issue on Web of Things in the Journal of Information Systems Frontiers by Springer, 2016.
21. IEEE Transactions on Automation Science and Engineering, 2013
22. ACM Transactions on the Web, 2008-2015
23. IEEE Transactions on Services Computing, 2009, 2010, 2011, 2015
24. Journal of Information Systems (Elsevier)
25. Service Oriented Computing and Applications, Springer, 2009
26. International Journal of Business Process Integration and Management (IJBPIIM), InderScience Publishers, 2009
27. International Journal of Distributed and Parallel Databases (Springer), 2009
28. Book Chapter on Context-Aware Applications, 2009
29. Bioinformatics, Oxford Journals, 2008, 2010
30. ACM Transactions on the Web, 2008
31. IEEE Transactions on Knowledge and Data Engineering, 2008, 2010, 2013, 2016
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33. International Journal of Distributed and Parallel Databases (Springer), 2008.
34. International Journal of Intelligent Computing and Information Sciences (IJICIS), 2007
35. ACM Transactions on Information Technology (TOIT), 2006
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38. International Journal on Digital Libraries (Springer), 2005
39. International Journal of Distributed and Parallel Databases (Kluwer Academic Publishers), 1999-2004.

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41. International Conference on Extending Database Technology, 2004.
42. Journal of World Wide Web, Internet and Web Information Systems (Kluwer Academic Publishers), 2003.
43. M-services in IEEE Transactions on Systems, Man and Cybernetics Journal, 2003.
44. Journal of Information Systems (Elsevier), 2003, 2010.
45. International Journal of Cooperative Information Systems (World Scientific), 2003.
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47. International Conference on Data Engineering, ICDE 2003.
48. International Conference on Very Large Databases, VLDB 2002.
49. IEEE Transaction on Data and Knowledge Engineering, 1999, 2015
50. The VLDB Journal, 1997.
51. ACM Transactions on Information System, ACM TOIS, 1997

D. Organizations

1. Honorary:
 - a. Member of the Girl Scouts of Central Texas
2. Professional:
 - a. Member of the Association for Computing Machinery
 - b. Member of IEEE

E. Service Honors and Awards:

Award / Honor Recipient: Presidential Distinction Award for Services, Texas State University.
2017

Award / Honor Recipient: Presidential Distinction Award for Services, Texas State University.
2014

Award / Honor Recipient: Undergraduate Research Mentoring Award, National Center for Women & Information Technology (NCWIT) & AT&T.
2013

F. Service Professional Development Activities Attended:

NCWIT Extension Service Meeting, Texas State University, San Marcos, United States.
(April 2018).

Workshop, "17th Annual Central Texas Women Profiles in Power and Women of Influence Event." (July 14, 2011).