



Andrew J. Solis
Research Engineer at
University of Texas at Austin

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Interests

- High-Performance Computing
- Parallel Processing
- Scientific Computation
- Visualization
- Software Engineering

Skills

Programming:

C, C++, JavaScript

python, HTML, CSS

MPI, Unity3D, C#

CUDA, Java, SQL

Bash Scripting, Unreal

Libraries:

angular

mongo

D3, scikit-learn

tensorflow, PyTorch

Django

Utilities:

git, linux, vim

jira, github, gitlab

Technologies:

Meta VR, HTC VIVE

multi-tiled display wall

large touch screens

Hololens, Magic Leap

Working Experience

- Aug, 2015 – current

Research Engineer

University of Texas at Austin

Working as a research engineer/visualization lab manager at the Texas Advanced Computing Center. Research Areas include Extended Realities (VR/AR/MR), Scientific Computation, Visualization, and HPC.
- Jun, 2014 – Aug, 2015

Software Engineer

IBM

Front-end developer that helped manage IBM Cloud technologies. Worked in agile environment to support feature requests, bugs, and improvements.
- Jun, 2012 – Jun, 2014

Undergraduate Research Assistant

University of Texas at Austin

Supported different research projects at The Texas Advanced Computing Center. Improve functionality for visual analytics of archival analysis.

Education

Postgraduate Studies

- 2020 – current

M.S. in Computer Science

Texas State University

Grade: CGPA: 4.0, GPA: 4.0

HPC

Parallel Processing

Scientific Computation

Undergraduate Study

- 2010 – 2014

B.S. in Computer Science

University of Texas at Austin

XR

Software Development

Honors and Awards

- Apr 2022

Exemplary 140 Award

University of Texas at Austin
- Aug 2022

Graduate College Scholarship

Texas State University
- Aug 2022

Phi Kappa Phi Honor Society

Texas State University
- Apr 2023

C.S. Graduate Academic Excellence Award

Texas State University
- Aug 2023

Graduate College Scholarship

Texas State University

Publications

Conferences

- * main presenter at conference
- * Andrew Solis, William J. Allen, and Erik Ferlanti. "Containerizing Visualization Software: Experiences and Best Practices." in *Practice and Experience in Advanced Research Computing (PEARC '22)*. Association for Computing Machinery, New York, NY, USA, Article 22, 1–8. 2022. doi: 10.1145/3491418.3530769
 - * Andrew J. Solis, Gregory Foss, Craig Jansen, and Mathew Stelmazsek. "VisQueue: An Analytical Dashboard for Science Exploration on HPC Systems", in *Practice and Experience in Advanced Research Computing (PEARC '20)*. Association for Computing Machinery, New York, NY, USA, 293–298. 2020. doi: 10.1145/3311790.3396618
 - S. Johnson et al. "Artifact-Based Rendering: Harnessing Natural and Traditional Visual Media for More Expressive and Engaging 3D Visualizations," in *IEEE Transactions on Visualization and Computer Graphics*, vol. 26, no. 1, pp. 492–502, Jan. 2020. doi: 10.1109/TVCG.2019.2934260
 - * Andrew Solis, Briana Bradshaw, and Latrell Gaither. "An Exploratory Tool for Analyzing Computational Jobs on XSEDE/HPC Resources." in *Proceedings of the Practice and Experience in Advanced Research Computing on Rise of the Machines (learning) (PEARC '19)*. Association for Computing Machinery, New York, NY, USA, Article 128, 1–3, 2019. doi: 10.1145/3332186.3337957

Short Bio

I am a researcher at The Texas Advanced Computing Center at the University of Texas at Austin. I began my academic career as an undergraduate research assistant before accepting a full time position. I am currently pursuing my masters at Texas State with a focus on compiler optimization for HPC systems.

Profiles



Languages

English

Spanish (college courses)

Personal

I live with my loving partner Nina and our dog-child Indigo in northwest Austin. I enjoy playing tennis to stay active and have been learning to play pickleball. During my downtime I love smoking meat and trying different cuisines around town. I am a lifelong learner trying to improve my spanish, learning to play guitar, but also enjoy getting outside to go hiking and have sightseeing adventures.

- * Greg Foss, Andrew Solis, Sarang Bhadsavle, Wendell Horton, and Lee Leonard. "Plasma Simulation Data Through the Hololens.", in *Proceedings of the Practice and Experience on Advanced Research Computing (PEARC '18)*. Association for Computing Machinery, New York, NY, USA, Article 105, 1–2, 2019. doi: 10.1145/3219104.3229431
- G. M. Rodriguez, M. Cruz, A. Solis, P. Ordóñez and B. C. McCann. "An immersive approach to visualizing perceptual disturbances," 2017 IEEE Virtual Reality (VR), Los Angeles, CA, USA, 2017, pp. 291-292. doi: 10.1109/VR.2017.7892291
- * S. S. Bhadsavle et al., "Immerj: A novel system for democratizing immersive storytelling," 2017 IEEE Virtual Reality (VR), Los Angeles, CA, USA, 2017, pp. 367-368. doi: 10.1109/VR.2017.7892329

Journals

- G. Abram, A. Solis, Y. Liang and K. Kumar, "In Situ Visualization of Regional-Scale Natural Hazards With Galaxy and Material Point Method," in *Computing in Science & Engineering*, vol. 24, no. 2, pp. 31-39, 1 March-April 2022. doi: 10.1109/MCSE.2022.3155074
- Esteva, Maria, Jessica Trelogan, Weijia Xu, Andrew J. Solis, and Nicholas E. Lauland. "Lost in the Data, Aerial Views of an Archaeological Collection." in *DH*, pp. 174-176. 2013.

Invited Talks

June 2022	Introduction to Visualization Technologies <i>TACC Institute on Visualizing and Interacting with Data</i>	TACC UT Austin
Nov 2019	Introduction to Visualization Technologies <i>SDS 322 Introduction to Scientific Computing</i>	UT Austin
Oct 2019	Introduction to Visualization Technologies <i>INF 385T Advanced Visualization Environments</i>	UT Austin
Aug 2018	Introducing A-Frame: We-based Immersive Vis <i>TACC Institute on Visualizing and Interacting with Data</i>	TACC UT Austin
Aug 2017	Introducing A-Frame: We-based Immersive Vis <i>TACC Institute on Visualizing and Interacting with Data</i>	TACC UT Austin
Feb 2017	Unity: Practices and Experiences <i>Guest Lecture at UT San Antonio</i>	UTSA
Mar 2016	Using Virtual Reality in Storytelling <i>SXSW (South by Southwest)</i>	Austin, TX
Apr 2015	NARA: An exploratory solution for large file systems <i>UT Research Week</i>	UT Austin