



## Summary

Dynamic and results-driven computational engineer and U.S. permanent resident with a Ph.D. in Engineering Mechanics from UT Austin and experience in fintech, geoscience, bioinformatics and computational physics in a short time-span. I've secured Series A funding for a surgical navigation startup, expanded a fusion startup into fintech analytics, and nurtured geoscientific collaborations in academia and national labs. My expertise lies in numerical methods, machine learning, and Bayesian inference.

## Skills

- **Programming Languages:** Python, C, C++, Fortran, MATLAB, SQL
- **Software & Tools:** Git (GitHub, GitLab, Bitbucket), PyTorch, SciPy, Scikit-Learn, Pandas, StatsModels, Seaborn, HyperOpt, Jupyter Notebook, Vim, Gnuplot, Boost, Eigen, Matplotlib, NumPy, OpenCV, MPI, Conda, Poetry, Flask, FastAPI, Qml, PySide6, HTML, CSS, AWS, Azure, Linux, Windows
- **Professional Profiles:** <https://github.com/SaumikDana>, <https://saumikdana.github.io/>

## Work Experience

### Computational Engineer, VISIE Inc., Austin, TX

Aug 2023-Nov 2023

- Secured key Series A funding through the pioneering development of an advanced robotic control system that enabled precise movement and image registration scanning.
- Optimized deployment in the DevOps pipeline by streamlining the release of package sub-components.

### Computational Lead, SapienAI LLC, Austin, TX

Aug 2022-Mar 2023

- Diversified SaaS offerings of the fusion startup into financial analytics by engineering the inaugural stock price predictor.
- Enhanced model reliability and predictive accuracy by implementing comprehensive cross-validation and facilitating CI/CD using GitHub Actions.

### Postdoctoral Associate, University of Southern California, Los Angeles, CA

Nov 2020-July 2022

- Enabled an order of magnitude speed-up in large-scale geoscientific simulations using cloud computing.
- Introduced a software suite for inverse problems with innovative Bayesian MCMC approaches.

### Postdoctoral Associate, Baylor College of Medicine, Houston, TX

Feb 2020-Oct 2020

- Streamlined genetic analysis processes by innovating and deploying new forensic biology tools.

### Postdoctoral Associate, Rensselaer Polytechnic Institute, Troy, NY

Aug 2019-Jan 2020

- Reduced power loss by 20% through leading a collaborative initiative to re-engineer a vertical axis wind turbine design with a NYC startup.

### Postdoctoral Associate, Los Alamos National Lab, Los Alamos, NM

Jan 2019-July 2019

- Catapulted simulation speeds by 3 orders of magnitude by spearheading the development of a reduced order model for subsurface flow and transport.

### Graduate Intern, Siemens Corporate Technology, Princeton, NJ

June 2018-Sept 2018

- Enhanced process accuracy and component quality in laser-based additive manufacturing by conceiving and executing a new thermal simulation tool.

## Education

### Doctor of Philosophy in Engineering Mechanics, University of Texas at Austin

Aug 2012-Dec 2018

- Rendered previously unachievable large-grid geoscientific simulations on a supercomputer.
- Published 5+ papers in peer-reviewed journals on iterative solution techniques for multiphysics.
- Presented findings at multiple national labs, engaging with leading experts to foster collaborative efforts.

### Master of Engineering in Mechanical Engineering, Indian Institute of Science

Aug 2009-June 2011

### Bachelor of Engineering in Mechanical Engineering, University of Mumbai, India

Aug 2004-May 2008