



## Summary

As a Computational Engineer and U.S. permanent resident with a Ph.D. from UT Austin, I specialize in numerical methods, machine learning, and Bayesian inference. My career spans fintech, geoscience, and computational physics, with achievements including significant simulation speed-ups and innovative software for inverse problems, securing substantial Series A investment at a surgical navigation startup, and leading financial analytics diversification at a fusion SaaS startup. Passionate about driving technological advancements, I seek to continue contributing to cutting-edge projects. **Professional Profiles:** <https://github.com/SaumikDana>, <https://saumikdana.github.io/>

## Work Experience

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

**Aug 2023-Nov 2023**

- Secured \$8.2 million in Series A investment by engineering a robotic control system enhancing precision in movement and image registration scanning.
- Optimized deployment in the DevOps pipeline by streamlining the release of package sub-components.

Skills ► Python, Git, OpenCV, Poetry, Qml, Pyside6, asyncio, Azure

### **Computational Lead, Sapientai LLC, Austin, TX**

**Aug 2022-Mar 2023**

- Diversified SaaS offerings into financial analytics by pioneering sparse greedy algorithm based data driven discovery of PDE for stock price prediction.
- Enhanced framework versatility via DevOps, cross-validation and machine learning.

Skills ► Python, Git, PyTorch, SciPy, Scikit-Learn, Pandas, StatsModels, Seaborn, HyperOpt, Conda

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

**Nov 2020-July 2022**

- Enabled 50% speed-up in large unstructured dataset geoscientific simulations using cloud computing.
- Introduced a software suite for inverse problems with Bayesian Markov Chain Monte Carlo approaches.

Skills ► Python, C++, Git, PyTorch, SciPy, Scikit-Learn, Pandas, Jupyter Notebook, AWS

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

**Feb 2020-Oct 2020**

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

Skills ► Python, bash

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

**Aug 2019-Jan 2020**

- Cut power loss by 20% through a collaborative initiative with a NYC based wind turbine startup.

Skills ► C++

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

**Jan 2019-July 2019**

- Drove a 1000 fold acceleration of subsurface transport simulations through a reduced order model.

Skills ► Python, Scikit-Learn

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

**June 2018-Sept 2018**

- Enhanced process accuracy in additive manufacturing by executing a new thermal simulation tool.

Skills ► Python

### **Graduate Student, University of Texas at Austin**

**Aug 2012-Dec 2018**

- Ensured continual engagement with NSF and DOE proposals by rendering previously unattainable large unstructured dataset geoscientific simulations.
- Published 5 papers in peer-reviewed journals on iterative solution techniques for multiphysics.

Skills ► C++, Fortran, MPI

## Education

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

**Aug 2012-Dec 2018**

### **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**