



## Summary

Dynamic US permanent resident with a Ph.D. from UT Austin, and expertise in numerical methods, machine learning, and Bayesian inference. Achievements include substantial speed-ups in large dataset simulations, development of innovative software suites for inverse problems, securement of key series A investment at a surgical navigation startup, and diversifying a fusion SaaS startup into fintech analytics.

## Work Experience

### Quantitative Developer, Zebra Capital Management LLC, Stamford, CT

Feb 2024-Present

- Streamlining ETF rotation portfolio, calibrating risk neutral expected variance and volatility skew.

Skills ► Python, Git

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

Aug 2023-Nov 2023

- Secured \$8.2 million in Series A investment.
- Engineered a robotic control system in a surgical navigation prototype.
- Optimized the DevOps pipeline by streamlining the release of package sub-components.

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

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

Aug 2022-Mar 2023

- Diversified fusion SaaS offerings into financial analytics.
- Pioneered 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 long read sequencing 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 grants.
- Rendered 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