Summary

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, securement of key series A investment for a medtech startup, and diversifying a fusion SaaS startup into fintech analytics.

Work Experience

Quantitative Developer, Zebra Capital Management LLC, Stamford, CT　　**Feb 2024-Present**
- Streamlining alpha maximizing market neutral sector rotation portfolio.
- Constructing numerous options based and technical analysis based indicators.
- Deploying statistical testing for feature rejection and machine learning for feature selection.
- Implementing multivariate time series forecasting for correlations with forward performance measures.
- Setting up the optimizer towards determination of sector weights.

Skills ▶ Python, Git, Pandas, StatsModels, SciPy, Scikit-Learn

Computational Engineer, VISIE Inc., Austin, TX　　**Aug 2023-Nov 2023**
- Secured $8.2 million in Series A investment by engineering a robotic control system in a surgical navigation prototype.

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

Computational Lead, Sapientai LLC, Austin, TX　　**Aug 2022-Mar 2023**
- Diversified fusion SaaS offerings into financial analytics by refactoring data driven discovery of PDE for stock price prediction.

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 Bayesian Markov Chain Monte Carlo based software suite for inverse problems.

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**
- 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**