BA Pranava

Curriculum Vitae

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Research Interests

Probability & Measure Theory · Information Theory · Quantitative Finance · Statistical Inference · Uncertainty Quantification

A foundations-first approach to AI/ML: understanding the mathematical substrate — from measure-theoretic probability and information theory through statistical inference to quantitative finance — that makes modern models work, or fail.

Education

Easwari Engineering College — Chennai, Tamil Nadu
Bachelor of Engineering in Computer Science Engineering (AI & ML) — *Sep 2023 – Sep 2027*

Experience

Quantitative Analyst — Jan 2026 – May 2026
Bullseye Fintech — *Chennai, Tamil Nadu*

- Developed agentic trading systems leveraging AI/ML for automated decision-making in financial markets
- Implemented quantitative models for financial analysis and risk assessment using Python and statistical methods
- Built data pipelines for real-time market data processing and analysis

Junior Developer — May 2025 – Dec 2025
Acroama Gnan Vikas — *Chennai, Tamil Nadu*

- Designed and implemented web-based solutions for statistical problem-solving
- Developed data visualization tools and analytical dashboards for statistical analysis
- Collaborated with the team to build reproducible research tools and workflows

Selected Projects

Bullseye — NSE Equity Analytics | *Python, Polars, Streamlit, Plotly* — 2024 – Present

- Built a production desktop application for end-of-day NSE equity analysis with vectorised, out-of-core data processing in Polars
- Implemented Camarilla pivot levels, multi-symbol comparison, parallel downloads with retry/backoff, and atomic writes
- Packaged as a Windows installer via PyInstaller and Inno Setup

binomcikit | *Python, Statistics, NumPy, SciPy* — 2024 – Present

- Developed an open-source Python package for computing confidence intervals for binomial proportions
- Implemented multiple interval-estimation methods (Wald, Wilson, Clopper–Pearson, and others) with reproducible-research standards
- Authored comprehensive API documentation hosted on Read the Docs

ToFUL — Tool for Uncertainty | *Python, Scientific Computing* — 2024 – Present

- Built a package for extracting statistical moments and quantifying uncertainty from unstructured and LLM-generated text
- Implemented uncertainty-propagation algorithms designed for research-grade accuracy

quant | *Quantitative Finance, Derivatives* — 2024 – Present

- Maintain an open study repository tracking progression through quantitative finance: derivative pricing, stochastic calculus, and systematic strategy

Technical Skills

Languages: Python, Haskell, SQL, Bash
Frameworks & Libraries: TensorFlow, PyTorch, NumPy, pandas, SciPy, Matplotlib, Polars, Streamlit
Developer Tools: Git, GitHub, Neovim, VS Code, PyCharm, Jupyter, Power BI
Operating Systems: Linux (Arch, Ubuntu), Windows
Documentation & Writing: LaTeX, Markdown, Technical Writing, API Documentation
Areas of Expertise: Statistical Modeling, Machine Learning, Deep Learning, Data Visualization, Uncertainty Quantification

Independent Study & Reading

Probability: Feller; Kolmogorov; Jaynes
Real Analysis & Measure Theory: Rudin; Apostol; Schilling
Information Theory: Cover & Thomas; Polyanskiy & Wu; Csiszár & Körner
Mathematical Statistics: Casella & Berger; Hogg
Quantitative Finance: Shreve; Hull; Reitano

References

Available upon request.