Prasann Iyer

Curriculum Vitae

(+91) 9029444027
prasann.work@gmail.com

Education

2019 - 2023 **Indian Institute of Technology Bombay**

B.Tech in **Electrical Engineering** (With Honours), **CGPA 9.34/10**

- And a **Minor in Computer Science & Engineering**

Work Experience

Jun '24 - Present **QiCAP.Ai** *Quant Trader*

- Served as **ML Alpha Researcher** for the firm's medium-frequency index options team, designing and evaluating data-driven trading strategies across NIFTY and SENSEX index option chain
- Traded a long gamma options strategy that delivered over **3x return (₹xx crore)** on deployed margin **within one financial quarter**, through live runs and continuous performance monitoring
- Integrated ML and statistical techniques, linear and ensemble regressors, forward-return bias modelling, and signal evaluation under normal assumptions to isolate persistent predictive features
- Engineered the firm's most efficient MF backtesting framework using parquet datasets, vectorised computation, and slurm-based parallelisation, **cutting simulation runtimes by over 80%**
- **Automated daily operations** of ML black-box deployments and sim–live trading checks across the whole teams active ML strategies with slack updates and helped diagnose and fix mismatches

Nov '23 – Jun '24 **Greenland Investment Management LLP** *Quantitative Research Analyst*

- **Priced cross-exchange Gold Quanto spreads** by jointly simulating currency, volatility, and correlation components to identify arbitrage trading opportunities between CME-TFEX contracts
- Built an execution-ready trading script incorporating costs and currency exposures; the PoC was shelved after cost analysis but re-established the **firm's first quanto trading framework**
- Partnered with the trading desk to backtest, stress-test, and refine spread signals using **Bloomberg terminal** for volatility surface calibration and rapid hypothesis testing in Excel and Python
- Developed automated pipelines for Chinese index ETFs and **implemented algorithmic logic** for dividend, bonus, and corporate-action adjustments to support systematic portfolio rebalancing

Sep '23 – Nov '23 **Sharpely (Neam Caps Pvt. Ltd.)** *Software Engineering Intern*

- Re-engineered the firm's stock screener engine from Pandas to **Polars (Rust backend)**, refactoring thousands of lines of code to achieve nearly **20x lower latency** for user-facing computations
- Integrated **dx-charts**, a high-performance open-source charting library, replacing paid TradingView components and **eliminating licensing costs** while enabling deeper API-level visualization control
- Built automated exchange data pipelines for bulk/block deals, insider trades, and corporate actions directly from NSE endpoints, ensuring seamless integration with the production db servers
- Prototyped LLM-based modules using **LangChain** and **Hugging Face** models to summarize financial PDFs, and integrated the Lean backtester as a potential front-facing framework

May '23 – Jun '23 **Optiver Services B.V.** *Quantitative Trader Intern*

- Completed Optiver's structured trading training programme covering the full spectrum of options theory; from Black–Scholes and volatility to Greeks interpretation and advanced option structures
- Traded EURO STOXX 50 options across strikes and expiries spanning the **full 8-hour trading day** for 3 weeks, dynamically managing Greeks, intraday risk, and event-driven volatility
- Led a quantitative research project analysing event-day inefficiencies on Single-Stock-Options, quantifying a potential **€5 million annual opportunity loss** and proposing a statistically fitted execution-width model that was later adopted as an intra-desk optimisation framework

May '22 – Jun '22 **Alphagrep Securities Pvt. Ltd.** *Quantitative Research Intern*

- Architected a Jupyter Notebook research framework to evaluate and classify trades using alpha-signal filters and distributional diagnostics. Collaborated with senior researchers to test new alpha features through t-statistics, Sharpe Ratio, Drawdown, etc. metric-based robustness tests
- Built a **no-code interactive interface** with ipywidgets, enabling non-programmers to apply multi-layered logic filters (with automated De-Morgan simplification) for rapid hypothesis iteration
- Optimized backtesting through vectorized computation and memory-efficient design, accelerating simulations for crypto strategies, **several of which advanced to live deployment**

May '21 – Jul '21 **Metripping Technologies Pvt. Ltd.** *Full Stack Developer Intern*

- Engineered a high-coverage **web-scraping system** to collect weather and tourism data for 20,000+ destinations, eliminating dependence on paid data vendors and reducing recurring acquisition costs
- Built and deployed end-to-end modules powering **user interaction logging, behavioural analytics, and ML-driven insights** for a real-time travel-analytics platform
- Implemented the system using **Django (backend)**, **Angular (frontend)**, and REST APIs to capture, visualise, and pipeline user data for downstream modelling

Key Projects

Aug '25 - Present **Bollywoodle** ♪ *Full-Stack ML Music Game*

- Orchestrated a full-stack **music-intelligence game** that decomposes Bollywood songs into progressive audio "stems" (drums → bass → melody → humming) for users to identify
- Engineered a large-scale audio-processing pipeline (>55k lines) benchmarking **Spleeter, Demucs, and MVSEP-MDX23** for multi-stem separation, selecting Demucs for accuracy–latency trade-off
- Built and optimised **vocal-conversion models** using Hugging Face checkpoints, performing vocals→humming transformations with music-theory-guided segmentation and MIDI note extraction
- Built a **Bollywood movie–song database** by parsing Wikipedia Pages and integrating YouTube and Spotify API data, using DeepSeek for automated filtering and metadata standardisation
- Deployed a **containerised backend** (Python + Bash) integrated with Firebase Lite and Cloudflare R2 CDN, achieving sub-200 ms playback latency through caching and range-request optimisation

Oct '21 – Nov '21 **Image Processing Projects (IIT Bombay)** *Prof. Suyash Awate, Prof. Ajit Rajwade*

- Developed **VGG-based and custom CNN architecture** in Keras/TensorFlow for cancer detection, achieving **94% accuracy** and AUC-ROC 0.97 with denoising and segmentation preprocessing
- Investigated **vector-valued PDE algorithms** for image regularisation, enforcing smoothness and pixel constraints in multi-channel images using controlled diffusion and stability-aware operators
- Implemented PDE-based solvers in MATLAB for **inpainting, reconstruction, denoising, and flow visualisation**; for discrete-grid diffusion to preserve edges while reducing noise

Scholastic Achievements

2022 Achieved an **Advanced Performer** grade in the course EE207: Electronic Devices & Circuits

2019 Secured **All India Rank 285** in **JEE Advanced** out of **180 thousand** candidates

2019 Achieved **All India Rank 677** in **JEE Mains** out of **1.5 million** students

Technical Skills

Programming Python, C/C++, SQL, Bash, JavaScript, HTML, CSS, Bloomberg Terminal

Others Codex, Pandas, Numpy, Huggingface, Scikit-learn, Agentic LLM Architecture, Prompt Engineering

References

Divay Bhutani
Portfolio Manager, QiCAP.Ai
✉ divay.bhutani@qi-cap.com

Goldy Goyal
Senior Portfolio Manager, GIM
✉ goldy@greenlandim.com

Shubham Satyarth
Founder and CEO, Sharpely
✉ shubham@mintbox.ai