

Shivesh Prakash

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EDUCATION

University of California, Berkeley | Master of Financial Engineering | GPA: 3.8/4.0 Expected Mar 2027
Coursework: Stochastic Calculus with Asset Pricing, Derivatives, Fixed Income, High-Frequency Finance

University of Toronto | Honours BSc in Computer Science, Minor in Statistics | GPA: 3.88/4.0 May 2025
Awards: International Scholar (\$100K), DSI Award (\$7.2K), JACP Scholar, UC Merit Award, 3x Dean's List
Coursework: Machine Learning (A+), Math of Finance (A+), Graduate Optimization (A), Probabilistic Learning (A)

ACHIEVEMENTS & TRADING COMPETITIONS

- JEE All India Rank 389 (top 0.04%); Physics Olympiad: 1st in state, **national top 1%**; 2x Regional Math Olympiad qualifier
- Akuna Capital Quant Trading Challenge: **World Top 10**; built an options market maker with binomial pricing and delta hedging
- Moreton Capital: **Rank #2**; 35% return trading real money on Polymarket; selected to manage \$10K in its prediction-market fund
- IMC Prosperity 4: **#62 of 19K teams** in algo trading (#32 in US); built a backtesting engine; traded pairs and ETF stat-arb
- Stevens HFTC 2026: **Rank #23**; traded tick-level DJIA order books against teams, ZI bots and RL agents using order-book imbalance

PROFESSIONAL EXPERIENCE

Millennium Global (FX Execution Team, MillTech) Oct 2026 – Dec 2026
Quant Researcher (Part-Time), UC Berkeley MFE Industry Project

- Testing whether zero-shot TiRex-2 forecasts (xLSTM foundation model, option-implied covariates) beat classic FX momentum.
- Building point-in-time, walk-forward backtests on G10 and a 20-pair EM-inclusive universe, with crisis-period tests.

JPMorganChase | Quantitative Research Summer Associate, Quant Trading & Research New York, NY | Jun 2026 – Aug 2026

- Cut T+1 forecast error (MAE) by **15%** vs. a seasonal baseline, using a 50K/day transaction stream and microstructure features.
- Built a real-time forecasting engine with settlement prediction, clustering and path inference from flows.
- Mapped unstructured news into directional NLP factors to explain event-driven regime switches in capital flows.

EY | Intern, Treasury Quant Team Mumbai, India | Sep 2025 – Feb 2026

- Built a privacy-first RAG query engine for corporate treasury that helped win **4 new clients**.

Pace Stock Broking Services | Quantitative Research Intern, HFT Desk Delhi, India | Jun 2025 – Sep 2025

- Clustered co-moving stocks from minute-level returns (PCA/LSTM + HDBSCAN); cluster returns showed **3.3%** autocorrelation.

University of Toronto | Research Assistant Toronto, ON | Jun 2024 – Aug 2025

- Processed **9 TB** of WSJ/NYT news to study the excess bond premium ([Draft](#)); modeled short-put volatility surfaces ([Paper](#)).
- Used symbolic differentiation to solve a large PDE system in a bank-run model ([Notes](#)).
- Designed a LeftNet-based graph neural network ([Paper](#)) for transition-state prediction (18.6 pm MAE); won **Best Poster** at DSI SUDS.

RESEARCH EXPERIENCE

Topic Models for Asset Pricing | 2 papers, corresponding author | Supervisor: Prof. Ali Kakhbod [Paper](#)

- Point-in-time test of LDA vs. transformer topics on 1.26M news articles: price + news ensemble net Sharpe **1.19** (2022–24).

Citi | Proving a Bond-Futures Hedge Correct in Lean, UC Berkeley MFE Industry Project Oct 2026 – Dec 2026

- Writing a machine-checked Lean proof that a bond-futures hedge is correct, extending it to regime switches, jumps and options.

NewMark Risk | FLEX Options: Trading & Pricing, UC Berkeley MFE Industry Project [Paper](#)

- Found on a 910-name panel that custom FLEX option trades spill over into listed-option open interest and implied volatility.
- Matched difference-in-differences: FLEX events raised listed OI by **0.306 log points** (~36%); built cost-stressed vol strategies.

VIXtrader | Supervisor: Prof. Ing-Haw Cheng [Paper](#)

- Forecasted 34-day VIX with an LSTM on macro and ARMA features, cutting MAE by **10%** and doubling R^2 vs. the baseline.
- Built dynamic-leverage strategies; backtested Sharpe ratios were **2.6x** those of passive benchmarks.

MHNpath | Digital Discovery 2026 (first author): Hopfield-network synthesis planner; solves 85.4% of PaRoutes targets [Paper](#)

SEE-2-SOUND | ICML 2024 workshop, SIGGRAPH 2025 poster: zero-shot 5.1 spatial audio from images and video [Paper](#)

Material Sensing | Sub-second hyperspectral capture and DNG-to-RGB demosaicing pipeline; trained material classifiers [GitHub](#)

PROJECTS

NanoTick LOB Replay Engine | C++, Parquet, PyArrow/Numba [GitHub](#)

- Replays 30M Nasdaq BX ITCH messages at **4.8M msg/s** on an M1 Mac, with an average p99 of 284 ns across book operations.

DygnosTech | Won MetroHacks (\$1K): GAN-based drug side-effect prediction with WebAssembly-optimized models [GitHub](#)

SKILLS, CERTIFICATIONS & LEADERSHIP

Technical: Python (NumPy, pandas, scikit-learn, statsmodels, PyTorch, TensorFlow), SageMaker, SQL, Git, Linux, Bloomberg, C/C++
Certifications: Passed Level I of the CFA Program; Akuna Capital Options 101 & 201; ML and DL Specialization (Stanford University)
Leadership: Founder, UofT Computer Vision group ([120 members](#), \$4.2K funding); UofT Aerospace Team (led [Keystone](#) and [Dark Noise](#))