

Gowtham Kuntumalla

Dallas, TX | gowthamkuntumalla@gmail.com | 945-527-7083 | gowthamkuntumalla.com | [LinkedIn](#) | [GitHub](#) | [Google Scholar](#)

Professional Experience

Forest Creek Capital LLC

Quantitative Research Analyst

Dallas, TX

Jun 2020–Present

- **Desk leadership.** Joined in June 2020 reporting directly to the co-founder and portfolio manager; earned progressively greater strategy and operating responsibility and, since 2025, have co-led a commodity trading desk across data, forecasting, portfolio construction, automated bidding, capital, risk, and performance review.
- **Capital performance.** The desk delivered about 130% annualized return on allocated capital from June 2020 through September 2026; capital was reused for one-day positions.
- **Strategy ownership.** Systematic strategies I developed or directly managed generated about \$18M in total lifetime P&L: \$13M+ from strategies I owned plus \$5M+ from legacy strategies I later managed. A \$10M+ flagship family I developed remains the desk's top earner.
- **Strategy advancement.** Redesigned multiple live strategies in 2025 through new signals, portfolio construction, shadow testing, and controlled deployment; bid volume fell 33%, while H2 P&L rose to \$1.8M, more than 10x the H1 result.
- **Applied machine learning.** Built and deployed a pair of machine-learning strategies to production in four months using DNN quantile valuation, scenario-CVaR portfolio optimization, out-of-sample evaluation, shadow testing, and staged scaling to live capital.
- **Risk and resilience.** Built collateral, credit-exposure, VaR/CVaR, drawdown, and automated/manual position-control systems. Owned strategies delivered annualized Sharpe of 2.2 in 2021, at least 2.3 in each full year from 2022–2025, 1.4 in 2026 YTD, and 2.2 over Jun 2020–Sep 2026 on daily dollar P&L (about 364 days/year), alongside 0.22 ROVaR5 (mean daily P&L divided by absolute VaR5). An owned strategy produced the firm's largest one-day gain; as desk co-lead, I guided recovery from its largest one-day loss. Both were seven figures; owned strategies recovered the resulting 11% drawdown in 56 days.
- **New-market launch.** Co-launched a new trading desk from the ground up, progressing from data and market infrastructure to auction participation in roughly one quarter. Built pricing models, constrained-optimization risk, settlement analysis, and automated trading infrastructure; traded every auction through 2025.
- **Research platform.** Principal maintainer for 5.5+ years of the firm's shared Python research and trading library. Authored, reviewed, and integrated hundreds of production changes across trading, risk, tests, data, and infrastructure; the library is imported by 35%+ of production modules across five distinct markets.
- **Production infrastructure.** Introduced cloud scheduling and co-led modernization of legacy Python and cloud-VM infrastructure on GCP across BigQuery, Cloud Composer/Airflow, Kubernetes, Cloud SQL, and virtual machines, improving research and production throughput and strengthening disaster recovery.
- **Applied AI.** Championed AI adoption across the firm, integrating Claude and agentic workflows into research and engineering. Built the firm's first MCP server, dynamically exposing hundreds of internal library functions to AI coding agents, and developed agents that monitor public market notices and trigger research alerts.
- **People and operating leadership.** Trained 6 junior quantitative analysts, including 4 direct reports, and developed analysts into production ownership of risk systems, trading, and desk reporting. Established recurring management reviews and wrote team onboarding and working-practice guidance.

Earlier Experience

Uber Technologies Inc.

Engineering Intern, New Mobility | [Poster](#)

San Francisco, CA

May–August 2019

- Built C++ software on embedded Linux for IoT-enabled JUMP vehicles and Python automation for testing on physical vehicles.
- Analyzed large-scale GPS and fleet-maintenance data using Python and SQL to define location-accuracy standards and inform product decisions.
- Developed a fleet-maintenance operating model projected to reduce annual costs by approximately \$60M.

Washington University in St. Louis

Research Intern, Dept. of EECE

St. Louis, MO

May–July 2017

- Developed C++ particle-aggregation simulations and a reproducible HPC workflow for processing terabyte-scale outputs; received a fully funded Ph.D. return offer.
- [Project summary](#) | [Seminar slides](#)

Education

University of Illinois Urbana-Champaign

- Master of Computer Science (**GPA: 3.9 / 4**) 2023
- M.S. Mechanical Engineering, thesis option (**GPA: 3.9 / 4**); fully funded 2020

Indian Institute of Technology Bombay

- B.Tech. Mechanical Engineering, Minor in Computer Science (**GPA: 9.3 / 10, Top 5%**) 2018

Graduate Research and Teaching

University of Illinois Urbana-Champaign

Graduate Research and Teaching Assistant

Urbana, IL

August 2018–May 2020

- Conducted U.S. Department of Energy-funded research on hybrid metal-polymer heat exchangers for low-temperature waste-heat recovery; led joining-method experiments and contributed to numerical design, manufacturing, and validation of roll-to-roll fabricated structures.
- Co-authored peer-reviewed work spanning heat-transfer design, advanced manufacturing, and deep-learning-based fouling prediction. M.S. thesis: [Design and Manufacturing of Novel Hybrid Metal-Polymer Heat Exchangers](#).
- Taught and mentored students in Senior Design Project, Heat Transfer, and Statics; rated an excellent teaching assistant in Spring 2019.

Selected Publications

Full publication record: [Google Scholar profile](#).

- S. Sundar, M. C. Rajagopal, H. Zhao, **G. Kuntumalla**, et al. “Fouling Modeling and Prediction Approach for Heat Exchangers Using Deep Learning.” *International Journal of Heat and Mass Transfer*, 159, 120112, 2020. doi:10.1016/j.ijheatmasstransfer.2020.120112.
- **G. Kuntumalla**, Y. Meng, M. C. Rajagopal, et al. “Joining Techniques for Novel Metal Polymer Hybrid Heat Exchangers.” *ASME International Mechanical Engineering Congress and Exposition*, 2019. doi:10.1115/IMECE2019-10621.
- Y. Meng, M. C. Rajagopal, **G. Kuntumalla**, et al. “Multi-Objective Optimization of Peel and Shear Strengths in Ultrasonic Metal Welding Using Machine Learning-Based Response Surface Methodology.” *Mathematical Biosciences and Engineering*, 17(6), 7411–7427, 2020. doi:10.3934/mbe.2020379.
- M. C. Rajagopal, H. C. Chang, T. Man, **G. Kuntumalla**, et al. “Materials-to-Device Design of Hybrid Metal-Polymer Heat Exchanger Tubes for Low Temperature Waste Heat Recovery.” *International Journal of Heat and Mass Transfer*, 143, 118497, 2019. doi:10.1016/j.ijheatmasstransfer.2019.118497.

Selected Academic and Engineering Projects

Additional artifacts and historical context: [project archive](#).

- **Equity portfolio optimization using machine learning.** Built and evaluated portfolios using S&P 500 data, expected-return estimates, and risk-aware allocation. [Repository](#) | [Report](#).
- **DNA motif discovery with expectation maximization.** Implemented an EM-based approach for learning probabilistic motifs from biological sequences. [Repository](#) | [Report](#).
- **Computational search for rocket propellants.** Used NASA CEA and Gaussian 09 with ab initio quantum-chemistry methods to study thermochemical properties of candidate energetic materials. [Thesis report](#).
- **Particle image velocimetry.** Co-developed C++ and MATLAB/OpenCV software using cross-correlation and FFT methods to recover flow-velocity fields from image sequences. [Repository](#) | [Slides](#).
- **Pratham student satellite.** Contributed a limited structural-analysis role, using ANSYS to help verify a student-built CubeSat later launched into low Earth orbit. [Wikipedia](#).

Additional Teaching and Leadership

- **UIUC teaching:** Senior Design Project (Spring 2020), Heat Transfer (Spring 2019), and Statics (Fall 2018).
- **IIT Bombay teaching:** Engineering Mechanics (Spring 2018) and Differential Equations (Spring 2017).
- **Technical Manager, IIT Bombay Hostel 4:** Elected to lead a four-person technical team and contributed to a first-place finish among 16 hostels in the institute's annual general championship.

Technical Skills and Credentials

Programming and data: Python (pandas, NumPy, PyTorch, CVXPY), SQL, database management, Jupyter, C++, MATLAB, PHP, Git, Linux, Plotly Dash, Looker Studio

Quantitative methods: statistical modeling, optimization, machine learning, time-series analysis, portfolio construction, risk management, backtesting, scenario analysis

Cloud and infrastructure: Google Cloud Platform, BigQuery, MySQL, Cloud SQL, Cloud Composer/Apache Airflow, Kubernetes, virtual machines, MCP

Scientific computing: HPC, OpenCV; Ansys Mechanical, SOLIDWORKS, Gaussian, NASA CEA

Credential: CFA Level I

Patent

Co-inventor, "[Method and Apparatus for Fabricating a Hybrid Tube](#)" (PDF), U.S. Patent 11,872,772 B2, granted 2024.