

# ARUN MITRA KOMMIREDDY

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## EDUCATION

**Birla Institute of Technology and Science Pilani, Hyderabad**

M.Sc. (Hons) Physics | B.E. Mechanical Engineering | Minor in Finance

Expected Graduation:

**June 2026**

### Relevant Coursework

Fundamentals of Finance • Financial Management • Security Analysis & Portfolio Management • Derivatives & Risk Management • Business Analysis & Valuation • Financial Risk Analytics • Engineering Optimization • Operations Management • Computational Physics • General Relativity & Cosmology

## CORE SKILLS

Time-Series Analysis • Volatility Modeling • Portfolio Construction & Optimization • Risk Assessment (VaR) • Financial Statement Analysis • Python (pandas, NumPy) • C++ • SQL • Git • MS Excel • Powerpoint • Tableau

## WORK EXPERIENCE

**Summer Intern, Sales Analytics | Swiggy, Hyderabad**

**July 2024- Sep 2024**

- Queried and analyzed ~1–3 million transactional rows using SQL to compute sales KPIs and metrics.
- Processed and cleaned datasets in Python (pandas), reducing data preparation time by over 40%.
- Built Excel dashboards (pivot tables, charts) tracking up to 10 core KPIs for performance monitoring.

**Engineering Intern | HPCL Visakh Refinery, Visakhapatnam**

**May 2023- July 2023**

- Worked with Maintenance and Rotary teams on heat exchangers and critical equipment in operations.
- Consolidated key operating parameters and computed maintenance metrics for engineering review.
- Identified operating trends, supported timely diagnostics, and followed up on actions by engineers.

## PROJECTS

**International Research Thesis: Computational Cosmology, Cosmic Void Size Function using Observational Data**

Advisor: **Prof. Federico Marulli**  
*June 2025- present*

*Independently secured a competitive international thesis collaboration with the **University of Bologna, Italy***

- Designed, executed, and benchmarked a reproducible analysis pipeline to identify voids in catalogs.
- Validated void statistics against simulated mocks and applied the methodology to observational data.

**Firm-Level Risk Profiling under Market Conditions:**

**Aug 2024- Dec 2024**

- Conducted firm-level risk diagnostics using return time-series, CAPM-based market sensitivity analysis.
- Analyzed return patterns using ARIMA; modeled volatility clustering, dynamics using GARCH/EGARCH.
- Evaluated downside exposure through Value-at-Risk (VaR) to support risk-aware assessment.

**Capital Allocation Strategies across Domestic and Global Markets**

**Aug 2024- Dec 2024**

- Designed a quantitative decision framework for capital allocation strategies under varying risk appetites.
- Evaluated minimum-risk, Sharpe-optimal portfolios, and benchmarked across domestic, global assets.
- Analyzed risk-return trade-offs, volatility, diversification benefits, and sector concentration in portfolios.

**Dividend Policy and Market Reaction to Dividend Announcements**

**May 2024- July 2024**

- Performed an event-study analysis on dividend announcements to estimate returns against benchmarks.
- Analyzed abnormal return patterns across multiple announcement windows to assess market reactions.
- Examined how payout magnitude, dividend consistency, and firm fundamentals influence responses.

## POSITIONS OF RESPONSIBILITY

**Editor in Chief | Student Alumni Relations Cell**

**May 2023- May 2024**

- Founded and hosted Alumni Unplugged, a flagship **podcast** (12 episodes) featuring BITS Pilani Alumni.
- Managed end-to-end publication of alumni features for BITS Echo, the official magazine of BITS Pilani.

**Head of Outreach | Entrepreneurship Cell**

**Nov 2023- Feb 2024**

- Led nationwide outreach for Launchpad (annual entrepreneurial summit), driving student participation from over 20 colleges; owned end-to-end execution of the 2024 edition on cross-team operations.

**Volunteer | National Service Scheme**

**June 2022- Mar 2024**

- Produced, edited, and proofread current affairs newsletter for the “In Sync with the World” initiative.