

# ANIRUDH KROVI

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## EDUCATION

**NEW YORK UNIVERSITY, Leonard N. Stern School of Business**

**New York, NY**

*Master of Business Administration (Specializations: Business Analytics and Strategy)*

**May 2023**

- Recipient, Professor Robert Salomon Faculty Scholarship (full-tuition, merit-based); GMAT: 770 (99<sup>th</sup> percentile)

**NORTHWESTERN UNIVERSITY**

**Evanston, IL**

*Doctor of Philosophy, Theoretical Physics*

**March 2021**

**NATIONAL INSTITUTE OF TECHNOLOGY CALICUT**

**Kerala, India**

*Bachelor of Technology in Engineering Physics*

**May 2014**

## EXPERIENCE

### INDEPENDENT RESEARCH PROJECTS

**Chicago, IL**

*All working papers, results and additional projects: <https://anirudhkvs.github.io/anirudh-fullsite/>*

**2025 - Present**

- Built persistent homology classifiers identifying patterns in weather (125 years, 3400+ cities) and commodities (24 years), achieving 0.96  $R^2$  (weather) and 70%+ CAGR with Sharpe >1.0 in out-of-sample backtesting (commodities)
- Developed rhythm-offset latent VAEs for arrhythmia classification (MIT BIH, 40 multi-hour ECG records totaling 20+ hours and 15M+ data points, 0.9+ AUC) and commodity modeling (24 years), producing 200%+ CAGR and Sharpe >2.5 in out-of-sample backtesting
- Designed Quantum Mechanics (tunneling) inspired EBMs for Bitcoin trend prediction (8 years), achieving Sharpe up to 0.9+ via in-sample testing
- Developed investor behavior archetypes and sentiment factor pipelines (350+ curated articles per firm), with scoring models outperforming FinBERT in predicting return sensitivity for Apple and Delta Airlines
- Analyzed 15 years of 5-year U.S. Treasury futures using price curvature and volume to detect high-tension regimes for risk management

### MCKINSEY AND COMPANY

**Chicago, IL**

*Associate*

**2023 – 2025**

- Built LRP model for \$20B+ pharma portfolio using 8+ datasets, layering policy scenarios for specialty, retail strategy
- Designed valuation model for \$200M+ transformation at \$250B+ pharma distributor, factoring pod structure, complexity, realization curves
- Authored top 5–ranked AI strategy proposal for major U.S. state government (use case evaluation and implementation)
- Built transaction tracking model for ERP rollout across 50+ public agencies, raising field clarity from ~70% to 90%+ on 50K+ records
- Built financial model for \$100M+ ERP Finance upgrade, incorporating labor efficiency and readiness factors
- Developed management strategy for \$600M+ transformation at 35K+ employee insurer, with 3-year roadmap and stakeholder journey map

### NORTHWESTERN UNIVERSITY

**Evanston, IL**

*Graduate Research and Teaching Assistant*

**2015-**

**2021**

- Developed dark matter models and proposed experimental studies achieving 10× improvement over prior results
- Built C++ programs processing 1M+ multivariable data points to generate distributions and new physics metrics; work cited by CERN collaborations (Geneva, Switzerland)
- Taught undergraduate physics with 95% (5.7/6.0) average rating across 5+ years

## PHYSICS PUBLICATIONS

- Anirudh Krovi, Ian Low, Yue Zhang, "Higgs portal to dark QED," Physical Review D, 102(5), 055003 (2020).
- Anirudh Krovi, Ian Low, Yue Zhang, "Broadening dark matter searches at the LHC: mono-X versus darkonium channels," Journal of High Energy Physics, 2018(10), 26 (2018).

## ADDITIONAL INFORMATION

- **Skills:** Python, C++, SQL, Excel Modeling; Energy-Based Models, Variational Autoencoders, Persistent Homology, Topological Data Analysis; LaTeX, Hindi, Telugu, Intermediate Arabic.

- **H1B visa holder** (Visa valid till August 2026 along with option of 3-year extension)