M UMA MAHESWARA REDDY

Tel: +91-9550295795 • E-mail: matta.umamaheswarareddy[at]gmail[dot]com

EDUCATION

INDIAN STATISTICAL INSTITUTE — **Kolkata, India**
Master of Technology – Cryptology and Security — *August 2022*
• All India Rank 05 [Link] • M.Tech Fellowship Award

PEKING UNIVERSITY HSBC BUSINESS SCHOOL — **Shenzhen, China**
Master of Economics — *June 2019*
• Dean's Award [Link] • Full Tuition Scholarship
• Panel Member for the Indo-Sino Investment and Trade Discussion, Guizhou

INDIAN INSTITUTE OF SCIENCE — **Bangalore, India**
Bachelor of Science (Research) – Physics — *July 2016*
• KVPY Fellowship, Department of Science and Technology, Government of India [Link]

EXPERIENCE

CRISIL LTD (An S&P Global Company) — **Pune, India**
Senior Credit Analyst – Quantitative Modeling — *Oct 2022 – Ongoing*

Credit Risk Modeling and Quantitative Analysis (US Public Finance, IPF, Sovereigns)
- Developed and maintained R/RShiny credit-rating models for USPF and IPF sectors
- Contributed to Criteria development projects focused on data aggregation and analysis for IPF Not-for-Profits across Social Housing, Education, Healthcare sectors
- Built RShiny models/UI and led UAT & production testing to guarantee functionality, usability and smooth deployment
- Built LRG and Social Housing sectoral risk-indicator platforms using SQL, Python and RShiny aggregating multi-source data to deliver comprehensive, data-driven insights to analysts
- Designed a cryptographic hashing program for Excel models to ensure data integrity and confidentiality
- Conducted comprehensive model reviews across various sectors, addressing end-user feedback and ensuring analytical accuracy and reliability

DeFi and Emerging Tech Research (S&P Global Research Collaboration)
- Coauthored two industry research reports published by S&P Global:
  • A dive into liquidity demographics for crypto asset trading • Crypto and AI: Shaping the Future of the Internet
  • What Can You Trust in a Trustless System
- Analyzed liquidity fragmentation across crypto markets, evaluating exchange-level variations in spreads, slippage, and market depth across fiat and crypto trading pairs.
- Investigated AI–blockchain convergence across multiple sectors to assess decentralization risks, scalability trade-offs and financial-system transformation
- Explored Layer-2 solutions' impact on DeFi scalability, trust frameworks and smart-contract functionality
- Contributed to S&P Global's Digital Assets Research team, analyzing stablecoins, DeFi protocols and providing insights into the evolving landscape of decentralized technologies

PEKING UNIVERSITY — **Shenzhen, China**
Research Scholar, Department of Finance [Link] — *Sept 2018 – May 2019*
- Derived and implemented a semi-analytical solution for the stochastic-volatility Bachelier model in Python/MATLAB, using both Monte Carlo simulation and FFT for precise derivative pricing

Research Student, Department of Finance [Link] — *Sept 2017 – Oct 2017*
- Implemented the Heston option-pricing model in Python and visualized the volatility smile

INDIAN INSTITUTE OF SCIENCE — **Bangalore, India**
Research Student, Supercomputing and Education Research — *May 2013 – July 2013*
- Studied and analyzed Google's Page Rank Algorithm for Search Engine Optimization

ADDITIONAL INFORMATION

- **Technical Skills:** Python, R, RShiny, SQL, STATA, C, MATLAB, MS Office Tools
- **Languages:** English, Hindi, Telugu, Chinese (Mandarin)
- **Core Competencies:** Financial Modeling · Quantitative Research & Model Development · Econometric & Statistical Analysis · Stochastic Modeling · Derivatives Pricing · Financial Forecasting · Macroeconomic Modeling · Regression Analysis · Financial Data Analysis · Data Visualization · Research Writing
- **Technical & Analytical Coursework:** Advanced Microeconomics · Game Theory · Advanced Macroeconomics · Applied Stochastic Processes · Econometrics · Probability & Statistics · Statistical Mechanics · Programming & Data Structures · Design & Analysis of Algorithms · Machine Learning in Finance · Behavioral Economics · Market Microstructure

OTHER RELEVANT PUBLICATIONS

- Preprint: Matta Uma Maheswara Reddy*, **Option pricing under normal dynamics with stochastic volatility**, arXiv:1909.08047 [Link]