

# ISHA PATRO

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## EDUCATION

### NEW YORK UNIVERSITY, TANDON SCHOOL OF ENGINEERING

Master of Science in **Financial Engineering**

GPA: Pending, currently in first semester of program

Brooklyn, NY

Expected 05/27

### VELLORE INSTITUTE OF TECHNOLOGY, AP

Bachelor in **Computer Science**

GPA: 3.52/4.0

Andhra Pradesh, India

07/21

## PROGRAMMING & TECHNICAL SKILLS

**Programming Languages:** Python, JavaScript, C++, R

**Web Development:** React, RESTful APIs, AG Grid, Streamlit, Dash

**Data Science:** Machine Learning, Data Mining, Large Language Models, Tableau, Microsoft Excel

**Databases & Cloud:** SQL, Neo4j, q/kdb+, AWS, MongoDB

## COURSEWORK HIGHLIGHTS

Probability, Fixed Income, Valuation, Derivative Securities, Quantitative Methods, Bloomberg Terminal

## EXPERIENCE

### J.P MORGAN CHASE & CO.

01/21 - 08/25

*Software Developer Engineer - II, MBS Division - Fixed Income Pricing Team* (Bangalore, India)

- Led the development and post-launch ownership of Trade Activity Monitoring (TAM) as Epic Owner, collaborating with stakeholders to achieve a 50% latency reduction and significantly improve trading floor execution efficiency.
- Pioneered and architected a comprehensive Mortgage Matrix modernization initiative driving 12% latency improvement supporting \$5B+ annual trading volume.
- Designed and implemented Trade Reporting and Compliance Engine (TRACE) in an agile environment collaborating with cross-functional teams to boost data processing efficiency by 30% and streamline regulatory reporting workflows.

## RESEARCH & ACADEMIC PROJECTS

### quPandas (Open Source Contribution)

06/25 - Present

- Engineered a Pandas-like library for kdb+ delivering performance gains of up to 15× in core data operations.

### Spot Curve Modeling

09/25

- Designed an arbitrage-free yield curve model implementing a multi-objective optimization framework with monotonicity constraints that balances pricing accuracy and curve smoothness.

### Advanced NASDAQ Market Prediction System with Deep Learning Optimization

08/25

- Engineered a sophisticated LSTM neural network system for high-frequency NASDAQ market prediction, achieving 26.7% improvement in forecasting accuracy through advanced hyperparameter optimization.

### TradePulse: SMA-Based Algo Trading on OANDA

05/25

- Built an algorithmic trading platform for EUR/USD on OANDA, integrating SMA-based strategies, real-time trade monitoring, and ML-powered price predictions for faster, smarter execution.

### Risk Radar

02/25

- Developed an AI-powered stock insights dashboard leveraging FinBERT for sentiment analysis to classify equities into dynamic risk tiers based on volatility, beta, and market news.

### Unlocking Financial Wisdom: Building Knowledge Graphs from Investopedia

09/24

- Published a research paper on financial knowledge graph leveraging Investopedia data extraction, visualizing 6,000+ financial terms with Obsidian integration for enhanced financial literacy; presented at PitchWell Season 3 Finals at J.P. Morgan.

## HONORS / AWARDS / COMPETITIONS

- Awarded the prestigious Numerix Women in Finance Scholarship, a **\$20,000 honor**, 2025
- Two-time 1st Place Winner, Engineering Clinics Expo, VIT (**\$1,200**) - across all engineering disciplines, 2017-2018