

# Niall Mandal

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## EDUCATION

### The University of Chicago

#### Master of Science in Financial Mathematics

Chicago, IL

Expected December 2025

- Courses: Portfolio Theory & Risk Management, Applied Algorithmic Trading, Probability & Stochastic Processes

### University of California, Berkeley

#### Bachelor of Science in Computer Science

Berkeley, CA

May 2024

- Courses: Probability Theory, Computational Statistics, Data Structures and Algorithms, Artificial Intelligence, Algorithmic Economics, Techniques of Data Science, Computer Security

## SKILLS

**Computing:** Python, Jupyter, SQL, Solidity, GoLang, Javascript/Typescript, Pandas/NumPy, NodeJS, ReactJS

**Knowledge:** Blockchain, Machine Learning, Financial Markets, Statistical Modeling, Mechanism Design, Game Theory

**Trading Products:** Blockchain Markets, Blockchain Derivatives, Decentralized Exchanges, Options, Futures

## EXPERIENCE

### Reflexive Capital

San Francisco, CA

#### Quantitative Trading Intern

May 2024 – August 2024

- Designed and developed a proprietary trading platform to compute indicators on real-time asset data allowing for algorithmic trading to implement momentum-trading strategies; built using Python, Snowflake, and Retool

### Circle Internet Financial

Boston, MA

#### Lead DeFi Researcher

December 2023 – August 2024

- Authored [Txt-2-Txn](#) with Circle's Research Team on LLM/Transformer architecture in converting user created text-expressed trades to realized trades; applied in tokens, derivatives, lending protocols, and cross-chain exchanges

### Software Engineering Intern

May 2023 – August 2023

- Refactored server-side code for price oracles of on-chain token data for USDC trading rates; wrote in NodeJS
- Authored Solidity code for USDC contract upgrade v2.2 to allow for safer minting/burning across different chains, mitigating an exploit occurring in 12.38% of USDC *transferFrom* transactions on the Ethereum chain

### Blumberg Capital

San Francisco, CA

#### Blockchain Research Engineer Intern

July 2022 – September 2022

- Conducted code auditing of active portfolio companies on Machine Learning pipelines and Smart Contracts
- Sourced crypto-native B2B facing companies for deal flow meetings including Cashmere (YC W22) on Solana

### Merge

San Francisco, CA

#### Chief Technology Officer/Co-Founder

January 2022 – June 2022

- Led Merge through the Antler Accelerator; received seed round term sheet for \$500K with a \$5M valuation
- Developed a mobile app in React Native, Google Cloud, and NodeJS allowing a user to identify their best credit card for a purchase, maximizing rewards, points, and cashback while optimizing credit utilization across all cards
- Managed a team of technical and marketing interns to create Merge website and reach ~2000 pre-release users

## RESEARCH

### Blockchain@Berkeley LLC

Berkeley, CA

#### Head of Research

May 2023 – May 2024

- Managed ~\$30M USD governance delegation used for optimizing financial parameters for on-chain DeFi protocols such as AAVE (Liquidity Markets), Uniswap (Decentralized Exchange), Compound (Lending Protocol) etc.
- Conducted internal research project executing strategies for token arbitrage on Uniswap v3 (Ethereum/Polygon)

### University of California, Berkeley

Berkeley, CA

#### Assistive Technology for Human Computer Interaction

January 2022 – May 2024

- Researched under Professor Brian Barsky to refine convolutional neural network architectures to create an efficient pipeline capable of accurately segmenting hand joints/fingers using YOLOv4; Increased model FPS by 53%
- Applied TensorFlow to develop a real-time multi-frame detection CNN for an American Sign Language classifier

## ADDITIONAL INFORMATION

**Certifications:** AWS Machine Learning Specialty Certification, July 2019