CHASE GILLIS

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EDUCATION

NEW YORK UNIVERSITY, *Courant Institute of Mathematical Sciences* New York, NY | Madrid, Spain
Bachelor of Arts in Computer Science, Minor in Data Science Sep 2021 - May 2025

- **Awards:** Dean's List 2x, Student-Athlete Honor Roll, First-Generation Student, Sommer's & Florida Bright Futures Scholarships
- **Coursework:** Algorithms, Data Structures, Cryptography, Regression Models, Statistics, Linear Alg, Parallel Computing, Calc II
- **Roles:** Zeta Psi (President), Tech@NYU (Project Lead), Google Developer Group (Marketing), Quant Finance Society, Wrestling

EXPERIENCE

U.S. CENTURY BANK, *Software & Data Engineer* May 2024 - Present

- Developed a secure SSL WebSocket API in Python to retrieve customer data and replace costly and unreliable C# legacy code
- Created a profitability model in SQL, Python, and Power BI to categorize account performance, which boosted revenue by 10%

NEW YORK UNIVERSITY, *Cryptography Research Assistant* Jan 2025 - Present

- Optimized K-time programs in the Bounded Storage Model to enhance the efficiency and security of Yao's Garbled Circuits
- Researched memory-hard dynamic programming problems and LLM watermarking for cryptographic authorship verification

404 FITNESS, *Supervisor & Data Scientist* Sep 2022 - Aug 2024

- Refined gym hours and staffing using Python and Pandas to reduce staffing costs by ~25% and meet budget constraints
- Led a team of 50 attendants, managed hiring, training, scheduling, and enforced policies as the youngest ever supervisor

SCALE AI, *AI Software Engineer Consultant* Jan 2024 - Apr 2024

- Reviewed AI-generated code in C and other languages for compliance with company standards to ensure high-quality responses
- Improved AI model performance by implementing efficient algorithms to increase content generation accuracy by ~12%

PROJECTS

ENCRYPTED MESSAGING CLIENT (GO), *Lead Developer & Engineer* Oct 2024 - Nov 2024

- Restored a secure messaging client based on the Signal protocol with Elliptic Curve Diffie-Hellman to guarantee forward secrecy
- Secured messages using AES-GCM encryption to handle disordered and altered messages, and provide deniable authentication

JPMORGAN CHASE & CO. VIRTUAL PROGRAM, *Quantitative Researcher* Jul 2024 - Aug 2024

- Built a natural gas price forecast model by merging linear and sinusoidal regression to gain an 82% trend prediction success rate
- Estimated default probabilities and FICO score buckets using logistic regression and MSE to improve risk assessment by 10%

BITCOIN FORECAST LSTM MODEL (PYTHON), *Creator* Jul 2024 - Aug 2024

- Crafted a LSTM model to predict Bitcoin price trends with 73% accuracy to rank in the top 25% of the Trilemma Capital Contest
- Trained and optimized the model on historical closing prices using the Adam optimizer and MSE loss function over 100 epochs

PAIRWISE TRADING ENGINE (JAVA/PYTHON), *Creator* Jun 2024 - Jul 2024

- Created an algorithm using the Alpaca API that achieved a 1.48 Sharpe Ratio and 1.1% alpha on historical data via backtesting
- Presented visualizations for performance, price ratios, moving averages, and z-scores using Streamlit to highlight market trends

ADDITIONAL INFORMATION

Programming Languages: Python, C/C++, CUDA, Go, Java, Bash, x86 Assembly, SQL, JavaScript, HTML/CSS, GDScript

Tools & Frameworks: Pandas, SciKit-learn, TensorFlow, MPI, OpenMP, Power BI, AWS, MongoDB, Godot Engine, Excel, Git

Certificates: Akuna Capital Options 101, Machine Learning on AWS, Bloomberg Market Concepts, Lyft SWE Forage, CPR, AED

Languages: English (Native), Spanish (Conversational)

Interests: Wrestling (State Champion 3x, All-American 5x), Auto-Mechanics, Chess, Poker, Fishing, Botany, Spikeball, Motocross