Cormac Taylor

(201) 820-5160 cormacmtaylor@gmail.com New York, NY
linkedin.com/in/cormac-taylor/ github.com/cormac-taylor cormac-taylor.com

Aspiring software engineer with experience across full-stack web, iOS, and ML systems. Passionate about building performant and elegant solutions across domains—from CUDA-accelerated financial simulations to polished iOS consumer apps.

TECHNICAL SKILLS

Languages: Python, Java, C, C++, JavaScript, TypeScript, Groovy, Erlang, OCaml, Swift
Libraries/Frameworks: Pandas, NumPy, React, Material UI, Node.js, Express, Spring, SwiftUI, CUDA
Databases: PostgreSQL, MongoDB **Tools & Platforms:** Git, SPIN, Maven, Jira, Confluence

WORK EXPERIENCE

Stevens Institute of Technology | *CS 601: Algorithmic Complexity* Hoboken, NJ
Course Assistant January 2025 - May 2025

- Assisted instruction for **15 PhD students** in advanced CS theory (automata, Turing machines, time complexity, reductions); supported student learning through 1:1 sessions and in-depth feedback of algorithms.

JoStrong (jostrong.com) **|** *React, Node.js, TypeScript, & MongoDB* Hoboken, NJ
Lead Developer August 2024 - May 2025

- Led a **team of 6** in building a full-stack platform for a fitness business, delivering features like client scheduling, a video content library, and digital document workflows using React and Node.js.
- Developed documentation and performance benchmarks that improved team clarity and execution.

TD Securities | *Java & Spring* New York, NY
Software Engineer Intern June 2024 - August 2024

- Migrated core trade surveillance modules to Java 17, improving **JVM performance by 6.5%**.
- Consolidated legacy trade code, improving maintainability and simplifying large-volume logic in Java.

PROJECTS

Tomorrow (iOS) | *Swift, SwiftUI, TypeScript, Node.js, & PostgreSQL* June 2025 - Current

- Building an iOS app to simplify personal finance. Features **Firebase Auth** for security, and **Plaid** for secure programmatic access to financial accounts.
- Supports budgeting, net worth tracking, and financial goal-setting in a sleek native interface.

Accelerating Stock Option Pricing | *CUDA C* May 2025

- Achieved a **15x speedup** in swing-option pricing using Tree Quantization on GPU vs. traditional LSM on CPU.
- Optimized parallel kernels for high-throughput Monte Carlo simulation in CUDA C.

Image Classification | *Jupyter Notebooks, Python, & CIFAR-10* March 2025

- Trained a CNN to classify 10,000 images into **10 classes with 80% accuracy** on the CIFAR-10 dataset.
- Applied dropout, batch norm, and learning rate scheduling to improve model generalization.

Full-Stack Web App | *Javascript, Node.js, MongoDB, Handlebars, & CSS* December 2024

- Led a **team of 4** to build a board game-sharing platform with auth, game transactions, reviews, and event signups.
- Implemented full-stack features and managed team workflows using Git and Agile-style sprints.

Neural Network from Scratch | *Jupyter Notebooks & Python* December 2024

- Built a MLP from first principles with ReLU activations and gradient descent; **99% accuracy** on synthetic datasets.
- Implemented forward/backward pass, custom loss functions, and numerical stability techniques.

Chat App | *Erlang* November 2024

- Engineered a **real-time chat app** in Erlang, a highly performant functional language, implementing message-passing protocols and a scalable architecture design to synchronize client, chat room, GUI, and server processes.

EDUCATION

Stevens Institute of Technology | *Highest Honors* Hoboken, NJ
Computer Science, B.S. September 2022 - May 2025

- **Coursework:** Data Structures, Machine Learning, Operating Systems, Compilers, Concurrent & Parallel Programming
- **Awards & Honors:** CS Departmental Award, Upsilon Pi Epsilon Honor Society, Edwin A. Stevens Scholarship