

# Matthew McAuley

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## EDUCATION

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### Cornell University

*Bachelor of Science in Computer Science*

Aug. 2022 – Dec. 2025

*Ithaca, NY*

**GPA:** 4.16/4.3

**Coursework:** OOP & Data Structures, Functional Programming, Discrete Structures, Algorithms, Machine Learning, Database Systems, Digital Logic, Linear Algebra, Embedded Systems, Language & Information, Probability & Statistics

## TECHNICAL SKILLS

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**Languages:** Python, Javascript, Typescript, C#, Java, OCaml, C, Assembly, HTML, CSS, SQL

**Tools:** Git, GitHub, Docker, AWS, OCI, Redis, Snowflake, PostgreSQL, SQLite, Postman, npm, conda, Verilog

**Libraries/Frameworks:** .NET, NUnit, React, Expo, Flask, SQLAlchemy, NumPy, Pandas, PyTorch, Selenium

## EXPERIENCE

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### Software Engineer Intern

*Octus (Formerly Reorg)*

June 2024 – August 2024

*Remote*

- Developed C# API for retrieving and organizing CLO market data into multi-level tables each with unique insights
- Optimized data retrieval with Redis caching, reducing page load times from ~5s to under 75ms after initial request
- Created NUnit integration tests with complete coverage, ensuring proper functionality after codebase changes
- Accessed Snowflake loan DB with 3.2M+ rows, adding relevant entries to objects defined by Postgres relationships
- Launched website for **Credit Cloud** platform, used by over 30,000 legal and financial professionals worldwide

### Software Developer

*Cornell Cup Robotics*

August 2023 – May 2024

*Ithaca, NY*

- Consulted major robotics company to design low-cost, educational robots for use across 2,000+ universities globally
- Designed website with Flask backend allowing for wireless connection and programming of onboard microcontroller
- Implemented ReactJS GUI for intuitive pairing, movement, blockly coding, script writing, and location graphing
- Built overhead vision system using April Tags to track robot ID, location, and orientation relative to other objects

## PROJECTS

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### Exercise Engine

- Full-stack **website** allowing ad-hoc or drop-down querying of exercises and returning the most similar results
- Created Flask API with SVD text mining and cosine similarity to measure relationships between descriptions
- Programmed HTML, CSS, and JS frontend allowing for API requests, applying filters, and neatly displaying results
- Used Selenium to web-scrape JSON dataset and Docker to containerize for deployment on an AWS EC2 instance

### GymBuddy

- Fitness companion mobile app with rest timer, set counter, exercise display, and custom workout plan creation
- Developed UI using Expo, React Native, TypeScript, and Tailwind CSS, with Expo-Router for file-based navigation
- Implemented local storage of custom workout plans and exercises using SQLite database, enabling offline access
- Integrated Spotify Web API with OAuth2 for user authentication, providing seamless and intuitive media control

### To-Do Manager

- **Website** for managing projects and their respective 'todos', each containing a title, description, and due date
- Constructed React frontend in Typescript with React Router for client side routing between login and home pages
- Built Flask API that manages the database and handles user authentication using JWTs stored in browser cookies
- Designed SQLAlchemy DB for persisting user data and containerized app with Docker for hosting on OCI instance

### Caml Capital

- Terminal recreation of the board game 'Monopoly' done almost entirely with functional programming in OCaml
- Worked in a 3-person team with weekly sprints and multiple prototype stages that offered increasing client value
- Utilized compilation units, higher order functions, OUnit test suites, version control, and rigorous documentation