



Ryan O'CONNOR

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Education

- 2022–2025 ○ **Bachelor of Arts in Computer Science, Hunter College, Manhattan NY, Aug. 2025 Completion**
Relevant Coursework: Data Structures and Algorithms, C++, Python, Machine Learning, Computer Architecture, Discrete Structures, Computer Organization, Data Mining, Data Engineering, Symbolic Logic

Skills

- Programming C++, LaTeX, Git, Python, React, Typescript, Ubuntu Linux Bash
Technologies Anaconda, Gimp, GitHub, Linux/Ubuntu, Jupyter Notebooks, TeXStudio, Unraid, VSCode, Windows

Projects

React

- Summer 2025 ○ **AllCards, Team of 4, Capstone**
A Web-App that brings TCG collections to the digital era.
Users can create a searchable, personal digital binder of their physical cards.
They can store, browse, and organize cards from various franchises.
Tech Stack:
- Frontend
 - React
 - BootstrapCSS
 - Backend
 - Firebase;
 - Authentication
 - Register Account
 - Sign-in and Sign-Out
 - Firestore
 - Add franchises to collection
 - Add Cards to collection per franchise
 - APIs
 - Magic the Gathering:
<https://scryfall.com/docs/api/>
 - Pokemon:
<https://docs.pokemontcg.io/>
 - Yu-Gi-Oh!:
<https://ygoprodeck.com/api-guide/>
 - More franchises to be added
 - Languages
 - CSS
 - HTML
 - TypeScript

C++

- Spring 2025 ○ **SimOS: Process & Memory Manager, Individual Project**
An OS simulation through a simplified OS kernel.
It simulates process scheduling, memory allocation, and disk I/O handling.
Details:
- Designed and implemented a priority-based preemptive CPU scheduler with randomized tie-breaking for equal-priority processes
 - Implemented worst-fit memory allocation strategy with recursive cleanup of zombie processes and their descendants
 - Simulated FCFS (First-Come-First-Serve) disk I/O request queue with realistic process blocking and unblocking
 - Managed process creation (fork), waiting, and cascading termination using a dynamic PCB table and child tracking
 - Used basic containers only (e.g., vectors and arrays); no maps or advanced STL structures
 - Core logic based on textbook chapters 1–10, prioritizing clarity and correctness over performance

Python

Fall 2024

NBA Awards Prediction, *Team of 5*

Data Mining algorithms designed to predict top candidates for several NBA Awards.
Previous yearly NBA statistics scraped to form datasets for predictions.

Details:

- API, BRScraper, scraped data from BasketballReference.com
 - Formed datasets for players and league standings
 - Yearly stats dating back to 1980
 - Added engineered features
- Python libraries used:
 - pandas
 - scikit-learn
 - BRScraper (API)
 - numpy
 - matplotlib
 - and several others
- ML Algorithms used to build models for prediction

Unraid

Apr 2022–pres.

Home Media Server, *Individual Project*

A personal home media server.
Operates on Unraid VM and Ubuntu Linux.
Utilized as personal media cloud.

Details:

- Built with spare computer parts and new server specific parts
- Programmed and designed the operation
- Produced platform for
 - eBooks
 - Movies and TV Shows
 - Music
 - Photos
- Future development
 - VPN service for whole home protection
 - Documents
 - Video Games

| Supporting Experience

Journeyman

2015–2022

Electrician, *Local Union #3 IBEW, NYC, NY*

Provided electrical and fiber-optic installations, maintenance, and repairs.

Details:

- Supervised jobsite
- Supervised and trained Apprentices
- Ran planning, considering budgets and material management
- Maintained client relations and satisfaction, and had daily correspondence the management team
- Provided clients with updates and alternative solutions to achieve satisfactory outcomes and project completion

| Certifications

- NYS DOL – Certificate of Completion for Apprenticeship Training
- OSHA 10
- OSHA 30
- Site Safety Training