Ryan O'Connor

+1 (845) 825 4707
ry.p.ocon@gmail.com
ryan-oconnor-222b86246
ry-p-ocon

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 physdical 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 – Data Mining

Fall 2024

NBA Awards Prediction, *Team of 5*

Data Mining to algorithms designed to predict top candiates 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 forApprenticeship Training
- OSHA 10
- OSHA 30
- Site Safety Training