Aidan Cusa

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EDUCATION

The Cooper Union for the Advancement of Science and Art Expected Graduation May 2026

- *Joint Bachelor's and Master's of Engineering* in Electrical Engineering
- *Minor* in Computer Science
- Cumulative GPA: 3.77 | Major GPA: 4.00
- Tau Beta Pi (Engineering Honor Society – within the top 15 students of the School of Engineering class)
- Eta Kappa Nu (Electrical Engineering Honor Society – within the top 5 students of the EE class)

Relevant Coursework

Data Structures and Algorithms I & II, Software Engineering, Natural Language Processing, Frequentist, Bayesian, and Generative ML, Compilers, Operating Systems, Computer Architecture, Communication Networks, Discrete Mathematics

TECHNICAL SKILLS

Programming Languages: Python, SQL, C, C++, MATLAB, Java, Javascript, React, HTML5, CSS, Verilog, x86-32
Tools: Git, Docker, BigQuery, DBeaver, Google Analytics & Looker, AirFlow, Spring Boot, Linux, Microsoft 365 Suite
Libraries: Pandas, NumPy, PyTorch, SciKit, XGBoost, NLTK, spaCy

WORK EXPERIENCE

National University of Singapore - *Research Intern* **May 2025 – Present**

- Creating middleware for autonomous guided vehicles to communicate with an elevator panel to traverse different floors in any building.

Lab Computer Center - *Student Manager* **Sep. 2023 - Present**

- Co-manage a team of 15 student workers, creating hourly schedules and assisting with their duties.
- Resolve IT problems and install new software to ensure a productive academic environment for staff and students.

High 5 Games - *Data Science Intern* **Jun. - Aug. 2024**

- Engineered 50+ custom queries using SQL in BigQuery, conducted individual and team investigations, and used Google Looker to visualize insights and aid in data-driven decision-making.
- Resolved six B2B revenue discrepancies totaling $10,000+ in difference.
- Designed and implemented a model in Python to detect anomalies in spin bets, safeguarding the company against exploitative behaviors and irregular betting patterns.
- Developed a Google Cloud Function to automate the ingestion and processing of PayPal chargeback events via a webhook and streamed the relevant data into BigQuery to track user data.

Monroe Public Schools - *Substitute Teacher* **Jan. 2023 - Present**

- Instruct mathematics, physics, and programming subjects to classes of 25+ elementary and high school students.

PROJECTS

C-99 Compiler (Jan. - May 2025) **-** Developed a fully operational compiler adhering to the C99 language standard, utilizing Flex for lexical analysis and Bison for parsing. Converted parsed abstract syntax trees into intermediate quad representations and generated executable x86-32 assembly code capable of running on standard Linux environments.

Financial Sentiment Analyzer (Nov. - Dec. 2024) - Implemented a financial sentiment analysis model by fine-tuning a DistilBERT model pre-trained on the Stanford Sentiment Treebank (SST-2). Conducted extensive hyperparameter optimization to maximize performance, achieving 96.24% classification accuracy.

The BookCooper (Jan. - May 2024) - Developed a full-stack book trading platform for Cooper Union students, utilizing React for the frontend, Java with Spring Boot for the backend, and PostgreSQL for database management. The platform, containerized with Docker, aids in exchanging textbooks and leisure reading materials for all.

EXTRACURRICULARS

- Cooper Union International Collegiate Programming Contest (ICPC), Team A Sep. 2024 - Present
- Cooper Union Google Student Developer Club, Member Jan. 2023 - Present
- Institute of Electrical and Electronics Engineers (IEEE), Member Sep. 2022 - Present
- Cooper Badminton Club, Member, Sep. 2022 - Present

Other Interests: Brewing Tea, Knitting, Playing Music (Guitar, Drums, Piano), and Solving Rubik's Cubes