Owen Oertell

owenoertell.com | ojo2@cornell.edu | linkedin.com/in/owen-oertell | github.com/owen-oertell | +1 (404) 491-4223 | US Citizen

Education

Cornell University Ithaca, NY

B.S. in Computer Science, Electrical Computer Engineering; Minor in Mathematics. *Expected Graduation: May 2025*

- **Relevant Coursework**: Introduction to Analysis of Algorithms, Object Oriented Programming & Data Structures, Advanced Linear Algebra

Georgia Institute of Technology Atlanta, GA

Full Time HS Dual Enrollment; GPA: 4.0/4.0. *Aug 2021 - May 2022*

- **Relevant Coursework**: Linear Algebra, Multivariable Calculus, Differential Equations, Discrete Mathematics, **Graduate Level** Computational Foundations of Machine Learning

Experience

Lab Researcher Atlanta, GA

Dickson Lab, Georgia Institute of Technology *May 2020 – Present*

- Adapted C code from bacterial genome to the human genome for novel copy number variation detection algorithm.
- Reduced memory consumption by 300GB while maintaining speed via parallelization and low-level C programming.
- Assisted in development of efficient blood assay technique for bacterial infection identification.
- Increased data gathering speed by 4x by writing code to use multiple cameras in parallel with single camera port.
- Co-authored low budget blood assay technique paper publication; submission for publication in process.
- **Utilities**: C (Serial and Parallelized), OpenMP, OpenACC, Makefiles, OpenCV, Linux, Python, Valgrind

Head of Engineering, Secretary on Board of Directors Boise, ID

Y STEM and Chess Inc 501(c)(3) *April 2020 – July 2022*

- Managed 30 undergraduate and professional SWEs.
- Led development of website: YStemAndChess.com to provide free mentoring of underprivileged children from around the world and expand Y STEM and Chess to tutor more than 800 children.
- Interviewed and hired interns and full time developers.
- Engineered and implemented scalable microservice architecture designs to minimize cost.
- Developed of real-time chess pairing and mentoring system.
- Implemented recording storage system allowing parents and students to review lessons.
- **Utilities**: Node.js, PHP, AWS, Angular.js, MongoDB, Docker, Kubernetes

Projects

PrepByAI.com (Co-Founder)

- Led development of website: PrepByAI.com, a free ACT preparation site.
- Built machine learning model to identify needs and suggest questions to improve performance using term frequency–inverse document frequency and k-means clustering.
- Over 500 regular users and 9,000+ questions answered to date.
- **Utilities**: Flask, PostgreSQL, TensorFlow, React.js, JavaScript, Python

DataManager (Large Scale Image Anomaly Detection)

- Created efficient variational audoencoder to detect anomalies in large image datasets.
- Added Electron.js frontend to create desktop application to apply, detect and confirm or remove anomalous images before deep learning tasks.
- **Utilities**: TensorFlow, React.js, Electron.js, JavaScript, Python

Awards

- Technology Student Assocation National Competition (each category 500+ submissions): 2nd in software development for DataManager project. Top 25 for data science for pulsar star detection deep neural network.
- Georgia Science and Engineering Fair Award for *Novel Application of Document Distance for CNV Detection.*
- National Merit Scholarship Recipient.
- Presidential Scholar Semi-finalist.

Technical Skills And Interests

Languages: C (OpenACC, OpenMP), C++, C#, Java, JavaScript, Python, Ruby, HTML/CSS, SQL
Frameworks: React.js, Angular.js, Electron.js, Node.js, Express.js, .NET core
Developer Tools: Jupyter Notebooks, Git, Docker, Kubernetes, VS Code, Amazon AWS, VIM, Makefiles
Libraries: Pandas, OpenCV, TensorFlow, Pillow, Numpy, Matplotlib, Valgrind
Databases: PostgreSQL, MongoDB
Interests: Mathematics (Pure and Applied), Thoretical Machine Learning, Go (board game), Magic: The Gathering, Golf