Owen Oertell

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Education

Cornell University — Ithaca, NY
Bachelor of Science in Computer Science; Minor in Mathematics. GPA: 4.1/4.0. — *May 2025*
- **Relevant Coursework**: Foundations of Reinforcement Learning*, Advanced Programming Languages*, Compilers, Introduction to Analysis of Algorithms, Object Oriented Programming & Data Structures

Georgia Institute of Technology — Atlanta, GA
Full Time High School Dual Enrollment. GPA: 4.0/4.0. — *Aug 2021 - May 2022*
- **Relevant Coursework**: Linear Algebra, Multivariable Calculus, Differential Equations, Discrete Mathematics, Computational Foundations of Machine Learning*

**denotes graduate level*

Experience

Lab Researcher — Ithaca, NY
Sun Lab, Cornell University, Bowers CIS Undergraduate Research Experience — *May 2023 - Present*
- Researching reinforcement learning theory and algorithms with Prof. Wen Sun.
- Developing and implementing algorithms for reinforcement learning for diffusion models.

Teaching Assistant — Ithaca, NY
CS 4820: Introduction to Analysis of Algorithms — *January 2023 – May 2023*

Researcher — Ithaca, NY
Cornell University Artificial Intelligence, in Direct Collaboration with Meta AI — *September 2022 – Present*
- Developing novel techniques for active learning for taxonomy expansion via coarsened shannon entropy with Prof. Emaad Manzoor.

Lab Researcher — Atlanta, GA
Dickson Lab, Georgia Institute of Technology — *May 2020 – August 2022*
- 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; submission for publication in process.

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 software engineers.
- 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.
- Engineered and implemented scalable microservice architecture designs to minimize cost.
- Implemented recording storage system allowing parents and students to review lessons.

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.

Publications

Jackson Kulik, **Owen Oertell**, and Dmitry Savransky. *Overdetermined Eigenvector Approach to Passive Angles-Only Relative Orbit Determination.* Journal of Guidance, Control, and Dynamics, 2023. Under Review.

Awards

- Chamblee High School Magnet Salutatorian.
- Technology Student Association 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.
- National Merit Scholarship Recipient.
- Presidential Scholar Semi-finalist.

Technical Skills

Languages: C (OpenACC, OpenMP), OCaml, Python, C++, Java, SQL, C#, JavaScript, Ruby, HTML/CSS
Developer Tools: Jupyter Notebooks, Git, Docker, Kubernetes, VS Code, Amazon AWS, VIM, Makefiles
Libraries: TensorFlow, Valgrind, Numpy, Pandas, OpenCV, Pillow, Matplotlib
Frameworks: React.js, Angular.js, Electron.js, Node.js, Express.js, .NET core
Databases: PostgreSQL, MongoDB