Aidan O'Neill

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EDUCATION

University of Massachusetts, Amherst **Amherst, MA**
MS in Computer Science (3.79) *May 2023*
Coursework: Machine Learning, Algorithmic Fairness and Strategic Behavior, Algorithms for Data Science, Advanced Algorithms, Information Retrieval, Secure Distributed Systems, Neural Networks, Applied Numerical Optimization, Digital Forensic Systems

Davidson College **Davidson, NC**
Bachelor of Science, Political Science (3.73) and Computer Science (3.81) with Honors, Cum Laude *May 2020*
Pertinent Coursework: Data Structures, Discrete Structures, Programming Languages, Networks and Systems, Computer Organization, Machine Reasoning, Distributed Data Structures, Database Systems, Analysis of Algorithms, Machine Learning, Linear and Discrete Optimization, Distributed Artificial Intelligence, Algorithmic Game Theory

EXPERIENCE

JPMorgan Chase | *Software Engineer II* **|** Chicago, IL *March 2023-Current*

- Led a database migration for 10M records and hundreds of SPROCs to Java, boosting accuracy from 50% to over 99%
- Deployed Prometheus and Grafana for real-time metrics, enabling sub-5-minute alerting for key performance indicators
    - Collaborated with product and technical leads to identify KPIs
- Collaborated with QA engineers to effectively triage issues in lower environments, resolving most within the same day
- Mentored junior and senior team members on new codebases and processes, allowing the team to have a greater impact across Chase Communications
- Supervised production releases outside of business hours to minimize customer impact, carefully checking for errors, exceptions and anomalies to ensure smooth deployments
- As a member of the data streaming platform, act as the primary point of contact for all customer interactions, coordinating efforts across 12 teams and 50 people. Ensure their technical requirements were captured and communicating the specifications for new features to the development team. Debug customer pipelines using Gaia Kafka, Amazon S3, Amazon Athena and Kubernetes to facilitate their timely delivery to production

Apple | *Software Engineering Intern* **|** Cupertino, CA *June 2022-September 2022*

- Improved a regression testing system for machine learning tagger models used by the News App, decreasing the runtime for regression testing by a factor of 12x and eliminating pain points for model scientists
- Consolidated 5 PySpark jobs into 2 jobs and eliminated a daily Java cron improving run-time and reducing brittle inter-job dependencies by eliminating approx. 750,000 intermediate directories and files
- Identified a bug in the taggers due to a lack of robustness to different encodings while validating the new system
- Used Pyspark, Hadoop, Kube, Yaml, Rio and Artifactory; focused on efficient, reusable, and testable code

Amazon | *Data Science Intern* **|** Seattle, WA *May 2021-August 2021*

- Developed a summarization backend which creates TLDRs for tax documents, saving Amazon approx. $1M per annum
- Used AWS Lambda, API Gateway, RDS, and S3 for an efficient, cheap, and easy-to-maintain backend
- Collaborated with Amazon Tax specialists to understand how Amazon Tax previously generated TLDRs as well as to evaluate how useful state-of-the-art summarization techniques as compared to heuristic approaches would be to Amazon
- Created a website using React and following RESTful principles which allows non-developers to adapt the summarization algorithm, allowing Amazon Tax to easily improve and extend the summarization backend resources

Test Innovators | *Machine Learning Consultant* **|** Seattle, WA *November 2020 – March 2023*

- Built on deep learning literature on state-of-the-art architectures in NLP to automate essay grading
- Used NLTK, Pytorch and Numpy on Google Colab

University of Massachusetts | *Teaching Assistant* **|** Amherst, MA *Fall 2020 – May 2023*

- Lead office hours and create materials for Secure Distributed Systems, Systems for Data Science, and Data Structures

Davidson College Computer Science Department | *Research Assistant* **|** Davidson, NC *June 2020 – August 2020*

- Implemented an efficient, distributed agent that uses Monte Carlo Tree Search (MCTS) to find optimal moves in Hex
- Distributed MCTS using per-thread work queues on compute nodes scheduled by one controller node

Davidson Research Institute | *Research Fellow* **|** Davidson, NC *June 2019 – August 2019*

- Developed a multi-threaded library that facilitates high-performance computation across nodes using Message Passing Interface, atomic operations, allowing researchers to pass anonymous functions using RDMA between compute nodes

SKILLS

- Proficient in C++, Python, C, Java, and MYSQL; Experience with PromQL, Mathematica, R, JavaScript, SML, Mathematica, Rust, HTML, and CSS
- AWS Certified Solutions Architect Associate
- Hobbies include rock climbing, Ultimate Frisbee, piano and beekeeping