Nathan Kawamoto

5746 E Hinsdale Pl, Centennial, CO 80112
(720) 705-8771 njkawamoto@gmail.com linkedin.com/in/nathan-kawamoto
github.com/ForkBomb20

Education

University of Michigan - Ann Arbor **August 2023 – Present**
Bachelor of Science in Computer Science (Senior) | GPA: 3.927 *Ann Arbor, MI*

Relevant Coursework

- Data Structures
- Algorithms & Complexity
- IOS Development
- Linear Algebra
- Discrete Mathematics
- Logic Design
- Statistics & Probability
- Machine Learning

Experience

Graph Academy **May 2024 – August 2024**
Software Development Intern *Cupertino, CA*

- Contributed full-stack development and optimization skills to a stealth-mode ML-focused startup, improving API query speed and graphical rendering performance by over 30%
- Led security and access auditing protocols for production ML datasets and customer-facing databases, ensuring robust data privacy
- Collaborated remotely with many employees and interns to effectively develop and secure a working code base

Nuclear Engineering and Radiological Sciences | University of Michigan **January 2024 – Present**
Undergraduate Researcher *Ann Arbor, MI*

- Provided data collection and analysis skills for the study of the socially engaged design of nuclear energy, specifically fusion energy and community sentiment regarding it
- Conducted in-person and virtual interviews, prepared data analysis presentations to draw meaningful conclusions, drafted public communications about the research topics including, but not limited to, emails, published research papers, and web applications
- Developed a novel framework for engaging community members in the design of fusion energy systems through collaborative workshops, thus allowing affected community members to better collaborate and convey their concerns with facility designers

University of Michigan Transportation Research Institute **May 2024 – Present**
Undergraduate Researcher *Ann Arbor, MI*

- Designed and tested advanced Federated Learning (FL) algorithms for real-world, decentralized ML use cases, focusing on improving scalability and reducing communication overhead.
- Collaborated with graduate researchers to benchmark FL algorithms across distributed training pipelines; produced reproducible experiments and publication-ready plots using PyTorch and Pandas.
- Pioneered a novel low-rank approximation strategy for FedDIP, cutting communication costs by 50%, enabling more efficient federated model updates across heterogeneous clients.

Publications & Presentations

- "Global Fusion Forum: An online platform for public engagement and participation in the development of fusion energy technologies"; Presented at the 66th Annual Meeting of the APS Division of Plasma Physics, October 2024; **N. Kawamoto** (A. Verma, K. Snyder, D. Hoover, J. Xie, J. Walters)
- "Community Engaged Design: Working Collaboratively with Communities to Design Fusion Energy Systems"; Presented at Phoenix Project: From Kikuchi to Fastest Path, November 2024; **N. Kawamoto** & D.Hoover (A. Verma, K. Snyder, J. Xie, J. Walters)

Awards & Honors

Dean's List (3x) | *College of Engineering* **Fall 2023, Winter 2024, Fall 2024**
Lieutenant Francis Brown Lowry Scholarship | *College of Engineering* **July 2024**
Alan Paller Memorial Scholarship | *National Cyber Scholarship Foundation* **November, 2022**
James B. Angell Scholar | *University of Michigan* **March, 2025**

Technical Skills

Languages: Python, Java, JavaScript, Swift/Swift UI, C++, C
Developer Tools: VS Code, Eclipse, Google Colab, XCode, DeepNote, Pycharm, Git/GitHub
Technologies/Frameworks: Linux/Unix, React JS, SQL, Numpy, Pandas, Matplotlib, Tensorflow, SciKit-Learn, PyTorch, XGBoost

Leadership & Extracurricular

Michigan Student AI Lab **Fall 2023 – Present**
President *University of Michigan*

- Managed an administrative overhaul of the AI centered student organization
- Led AI related projects and discussion initiatives, engaging students at the University of Michigan in the study of AI applications
- Handled industry outreach, and partnerships with numerous large companies and student organizations
- Handled organization funds and headed administrative tasks such as recruiting, fundraising, and team assembly

Michigan Data Science Team **Fall 2023 – Present**
Project Lead *University of Michigan*

- Led a project teaching students how to utilize neuroevolution and genetic algorithms for data science applications
- Prepared weekly presentations and coding challenges and examples for students
- Students left with a strong understanding of fundamental data science concepts including ethical data analysis and EDA (exploratory data analysis) and basic AI/ML concepts