MIKA OKAMOTO

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EDUCATION

Georgia Institute of Technology, B.S. + M.S. in Computer Science, GPA: 4.00 May 2027

Coursework: Machine Learning, Databases, Computer Systems and Networks, Data Structures and Algorithms

EXPERIENCE

Software Engineer Intern • Two Sigma Investments 6/2025 – 8/2025

- Modeling Insights Engineering.

AI Algorithm Engineering Intern • Collins Aerospace – Raytheon Technologies (RTX) 5/2024 – 8/2024

- Developed a production-approved Python framework to integrate explainable AI into existing ML workflow.
- Integrated MLflow to enhance tracking and reproducibility in MLOps processes, saving 50+ hours/month.
- Improved object detection throughput on a constrained security system by 5x via multithreading.

Research Assistant • Georgia Tech Research Institute (GTRI) 1/2024 – Present

- Created a chatbot infused with RAG on research papers and a code generation pipeline to create, execute, and debug simulations in Python, empowering users to quickly learn specialized topics and test ideas.
- Investigating scientific claim decomposition and verification via AI agents and search algorithms.
- Researching techniques for learning generalized methods and solutions to planning problems via hierarchical problem networks to reduce search complexity.

FinTech Fellow • Financial Services Innovation Lab (FSIL) 1/2024 – Present

- Designed a system to profile LLMs' strengths and weaknesses and recommend the optimal model for a task based on budget constraints and necessary skills; presented first-author paper as a poster at MLSys.
- Built a holistic finance benchmark for assessing language models, co-first author paper accepted at ACL.
- Implemented Python code to web scrape, process, and clean earnings call transcripts for later use.
- Exploring machine unlearning techniques to determine what training data contributes to LLM performance.

Bioinformatics Intern • Palmer Lab at UCSD 6/2023 – 10/2023

- Optimized ML algorithm for trait prediction based on genetic data through data reduction with Python & R, reducing number of input features from 7.3M to 50k with minimal (< 0.01%) performance degradation.
- Performed data science analysis with Python of trait datasets for quality control and pipeline preparation.
- Co-authored 2 journal articles on genetic prediction: Mika Okamoto's Google Scholar.

PROJECTS & EXTRACURRICULARS

- Anime Recommender: User-friendly Flask website that displays a filterable database of 20,000+ animes, provides recommendations based on user preferences, and includes translation between 10+ languages.
- Stinger Seller: Online marketplace built with Flask and SQLite database, featuring item search by words and phrases, payments via Stripe API, tag-based filtering, and sentiment analysis for enhanced user experience.
- FIRST Robotics Competition (FRC): Led team effort on Java code development for fully autonomous robotic operation, won best programming awards at competitions with over 40+ other robots.

SKILLS

- **Programming**: Python, R, Java, SQL, Bash, C++, HTML, CSS, JavaScript, Golang
- **Technologies**: Git, GitHub, Excel, Docker, AWS, Trello, Jira, Confluence, ClickUp, Android Studio
- **Full Stack**: ReactJS, Flask, Gradle, REST APIs, Firebase, MySQL, SQLite, Microsoft SQL Server
- **Machine Learning**: PyTorch, TensorFlow, scikit-learn, Pandas, NumPy, OpenCV, matplotlib, seaborn, Jupyter
- **Research Interests**: Explainable AI, Automated Reasoning, Natural Language Processing