KAIJI FU

+1 (919) 307-6795 | kaiji.fu@gmail.com | US Citizen

EDUCATION

University of North Carolina at Chapel Hill — May 2026

B.S. Computer Science and Mathematics | GPA: 4.0 | Carolina Scholar (full scholarship, top 1%) | Honors College (top 10%)

EXPERIENCE

Incoming IoT Software Engineering Intern - *Splunk* — Jun 2025 – Aug 2025
- Will be developing data ingestion and analytics pipelines to support telemetry for millions of edge devices with **Python**

Software Engineering Intern, Full Stack - *Ember Learning* — May 2024 – Aug 2024
- Delivered a **LLM** grading feature with **100k+ users** at an AI education startup, helping generate **$40k+** in ARR
- Built **20+** responsive UI components using **TypeScript** and **React** and composed an **AWS** backend with **Terraform**
- Refined fine-tuning pipelines for custom **LLMs**, improving grading accuracy across diverse standards by up to **60%**

Software Engineer, Open Source - *Mozilla* — Dec 2023 – Present
- Contributed to Mozilla's bugbug, a **Python** bug classification system that uses **ML** to triage **10k+** Firefox bugs/month
- Resolved critical issues, merging **2000+** lines of code over **20+ pull requests** in collaboration with core maintainers

Research Assistant (AI/ML) - *UNC School of Medicine* — Nov 2024 – Present
- Collaborated with cardiologists to develop **transformer architectures** to analyze ECGs and detect cardiac anomalies
- Used **Python** and **Tensorflow** on a **SLURM/Linux** environment to achieve **11% higher accuracy** than state of the art

Research Assistant (AI/ML) - *ECU School of Medicine* — Sept 2022 – Feb 2023
- Researched how federated (distributed) **machine learning** enhances patient privacy when training diagnostic models
- Demonstrated that federated modeling maintains **95%+** accuracy while obviating cross-institutional data sharing
- Won **Best Poster** at the ISS Symposium, where I presented findings to faculty, industry partners, and fellow researchers

PROJECTS

Nolyn | *RabbitMQ, AWS/cloud, C/C++, RTOS, embedded development/debugging* — May 2023 – Dec 2024
- Founded a startup that built a camera to capture license plates of vehicles illegally passing buses for **100x** lower cost
- Developed microcontoller firmware with **C/RTOS** and connected it to **AWS** for real-time image capture and analysis
- Created a **full-stack cloud application** with **AWS** and a **ReactJS** admin portal, providing **100%** real-time visibility
- Deployed on **2000+** buses across **10+** school districts and secured **$1k+** in venture capital from investors like Amazon

Blackbeard | *OpenCV, PyTorch, CAN, robotics, embedded development, computer vision* — Aug 2022 – May 2023
- Trained an AI object detection model with **OpenCV/PyTorch** to **4x self-driving** performance in a robotics competition
- Deployed the model on an **embedded Linux** coprocessor, achieving **95%** accurate real-time detection of field elements
- Implemented **MQTT** protocol with **C++** and **Java** to connect coprocessor and robot controller for reliable data transfer

72o | *Python, Numpy, Pandas, Machine Learning, Game Theory* — Feb 2025
- Awarded **1st/112** in the UNC Pokerbots competition with a team of 4, building a poker decision engine with **Python**
- Applied **counterfactual regret minimization (CFR)** algorithms to develop game-theory optimal betting strategies
- Concieved an opponent modeling system capable of adapting to villain's play patterns, increasing winrate by **32%**
- Leveraged **multi-threading** to parallelize decision-making, decreasing latency by **3x** and avoiding disqualification

Loggerhead | *Swift, AWS, PostgreSQL, iOS development, RESTful APIs* — Jan. 2021 – Feb. 2024
- Developed a **full-stack iOS application** in **Swift** with **10+ users** to track and analyze tennis practice sessions
- Designed and produced a **RESTful API** using **AWS Lambda** and **API Gateway** to store and retrieve user data
- Defined a robust data model with **PostgreSQL** for tracking practice metrics, ball machine settings, and analytics
- Produced progress visualization with **SwiftUI**, helping users track improvement through data-driven insights

TECHNICAL SKILLS

Languages: Python, Go/Golang, JavaScript, TypeScript, C, C++, Java, Kotlin, HTML5, CSS, SQL
Frameworks: React, Flask, AWS, GCP, PyTorch, NextJS, Express, Vue.js, Angular, JUnit
Developer Tools: RabbitMQ, PostgreSQL, Docker, Git version control, Github Actions, AI/ML