KAIJI FU

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EDUCATION

University of North Carolina at Chapel Hill May 2028

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

EXPERIENCE

Software Engineering Intern, Full Stack (Embedded) - *Splunk* Jun 2025 – Aug 2025

- Worked on the **IoT** platform, enabling **1,000+** B2B clients to stream data into Splunk and deploy **AI** models at the edge
- Automated performance testing of an embedded **Linux** device using **Python**, accelerating development cycles by **3x**
- Implemented i18n using **Redux**, **TypeScript**, and **React**, enabling global expansion and unlocking **$100M+** in revenue
- Developed systems to enable observability and created dashboards to monitor millions of devices using **Python/Flask**

Software Engineering Intern, Full Stack (AI/ML) - *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 – May 2025

- 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 | *AWS, React, TypeScript, 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 microcontroller firmware with **C/RTOS** and connected it to **AWS** for real-time image capture and analysis
- Created a **full-stack cloud application** with **Python/Go/AWS** and a **ReactJS** admin portal for full operational visibility
- Deployed on **2000+** buses across **10+** school districts and secured **$1k+** in venture capital from investors like Amazon

Blackbeard | *AI/ML, computer vision, PyTorch, autonomous vehicles, robotics* 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
- Employed **MQTT** with **C++** and **Java** for reliable coprocessor-controller communication, reducing latency to $<$0.1s

72o | *Python, AI/ML, 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
- Designed 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, Java, C++, C, JavaScript, TypeScript, PHP, Objective-C, Golang, Rust, HTML, SQL, C#, Swift, CSS
Developer Tools: Git, RESTful APIs, Docker, Kubernetes, Node.js, Linux, PostgreSQL, MySQL, observability
Frameworks: React, embedded systems, RTOS, deep learning, AI, machine learning, web development
Coursework: Distributed Systems, Web/Mobile Development, Network/Application Security, Machine Learning, AI