

KAIJI FU

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EDUCATION

University of North Carolina at Chapel Hill

May 2027

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 (IoT/AI) - Splunk

Jun 2025 – Aug 2025

- Working on the IoT platform, enabling over 1,000 clients to stream data into Splunk and deploy AI models at the edge
- Automated performance testing on Linux-based embedded devices with Python, reducing manual testing time by 100X
- Implemented i18n using Redux, TypeScript, and React, enabling global expansion and unlocking \$XXXM in revenue
- Developed systems to process telemetry data and create 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 – 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 | IoT, RabbitMQ, FreeRTOS, C/C++, TypeScript, React, embedded development

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, JavaScript, TypeScript, Scala, Clojure, Java, Haskell, C++, go, Scheme, Common Lisp, Swift, HTML, CSS, SQL, PHP, Ruby, Clojure

Developer Tools: React, REST APIs, NoSQL database, Kubernetes, Terraform, Jenkins, Docker, AWS cloud

Frameworks: iOS, SwiftUI, RTOS, embedded development, React v16+, AI/ML, IoT, cloud computing, AWS, GCP