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| **KAIJI FU**  [kaiji@unc.edu](mailto:kaiji@unc.edu) | (252) 267-0412 | Github/Linkedin: kaijif | US Citizen | | |
| **EDUCATION** | | |
| **University of North Carolina at Chapel Hill** – Chapel Hill, NC | | Expected Jun 2026 |
| *Computer Science, B.S.* | | |
| GPA: 4.0 | Carolina Scholar (full scholarship, top 1%) | Honors (top 10%) | Information Science Assured Admit | | |
| **PERSONAL PROJECTS** | | |
| **Nolyn** – Greenville, N.C. | May 2023 - present | |
| *Developed a smarter stop-arm camera with a 5-person team, cutting costs by 100x ($30 vs. $3,000) -* [*https://nolyn.co/*](https://nolyn.co/) | | |
| * Built an IoT camera on the ESP32 platform with C++/RTOS and a web interface with JS/React * Designed AWS cloud infra with NoSQL DB, RESTful APIs, and an MQTT to communicate with cameras. * Designed a modern and reactive frontend with Figma and built it with ReactJS * Coordinated closely with stakeholders and working on deploying on Pitt County Schools' 200+ buses * Received a $1,000 grant from Amazon | | |
| **ACADEMIC RESEARCH** | | |
| ***Machine Learning-Enhanced Electrocardiograms*** | Sep 2024 - present | |
| *Leveraging convolutional neural networks (CNNs) and transformers to detect cardiac anomalies with high accuracy.* | | |
| *Researcher* | | |
| * Implemented convolutional neural networks (CNNs) and transformer architectures—the same technology powering modern LLMs like ChatGPT—to detect cardiac anomalies * Developed robust data preprocessing pipeline using Pandas and SciPy to normalize ECG waveforms * Leveraged high-performance computing infrastructure and Linux-based environments to train computationally intensive models on large-scale medical datasets * Collaborated with cardiologists to validate model outputs against expert clinical diagnoses | | |
| ***Implementing a Federated Learning System to Protect Patient Privacy*** | Feb 2020 - April 2023 | |
| *Using federated machine learning to enhance privacy and security in healthcare data analysis.* | | |
| *Lead Author* | | |
| * Used TensorFlow to train federated models and Pandas/NumPy to perform data processing. * Demonstrated that federated modeling maintains >95% accuracy while eliminating cross-institutional data sharing requirements * Presented my findings at East Carolina University's ISS Symposium | | |
| **LEADERSHIP AND COMMUNITY INVOLVEMENT** | | |
| **Pitt Pirates Robotics Club**– Chapel Hill, NC | Aug 2022 – Jun 2024 | |
| *Software/R&D* | | |
| * Trained a custom deep neural network with PyTorch to achieve real-time object detection. * Deployed model on the NVIDIA Jetson platform, a Linux-based CUDA-enabled edge processor | | |
| ***The Daily Reflector*** – Greenville, NC | Dec 2022 - present | | |
| *Regularly featured voice for my local newspaper (est. 1894)* | | |
| *Columnist* | | |
| * Published 10+ editorials on technology and its effects on the place I call home | | |
| ***Mozilla*** – San Francisco, CA (Remote) | Dec. 2023 - present | |
| *Open-Source Contributor* | | |
| * Contributor to bugbug, a Mozilla project aimed at using ML to classify bugs * Communicated with maintainers and merged a 200+ line commit that fixed an issue related to type checking | | |
| **SKILLS** | | |
| **Languages/Tools:** Python, JavaScript, Java, Rust, C/C++, PyTorch, TensorFlow, Figma, Linux, Git, CI/CD, AWS, Docker, embedded applications, machine learning, AI, LLMs, and open-source software, RESTful API design, database design, web development, React, project management, cross-functional collaboration | | |