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| **Kaiji Fu**  [kaiji@unc.edu](mailto:kaiji@unc.edu) | (252) 267-0412 | Github/Linkedin: kaijif | US Citizen | Software engineer searching for internships | | |
| **EDUCATION** | | |
| **University of North Carolina at Chapel Hill** – Chapel Hill, NC | **May 2026** | |
| Computer Science, B.S. | GPA: 4.0 | Carolina Scholar (full scholarship, top 1%) | Honors (top 10%) | | |
| Relevant Coursework: Computer Organization, Data Structures, Algorithms & Analysis, Foundations of Programming (**Java**) | | |
| **PROFESSIONAL EXPERIENCE** | | |
| **Mozilla** – Open-Source Contributor | | **2023 - Present** |
| *Contributing to Mozilla's bugbug project by implementing critical fixes in collaboration with core maintainers.* | | |
| * Actively contributedto Mozilla's bugbug project, an **AI-powered** bug classification system written in **Python** that uses **machine learning** to automate bug triage across Firefox repositories * Collaborated with core project maintainers through **GitHub issues** and **code reviews**, **merging** **10+ 200+ line commits** that resolved a critical type-checking issue | | |
| **Pitt Pirates Robotics Club** - Software Engineer | | * Aug 2022 – Present |
| * Designed and trained a custom YOLOv7 **deep neural network** using **OpenCV/PyTorch**, achieving 95% accurate real-time object detection for competition elements such as game pieces and field markers * Collaborated with engineering team to successfully deploy the object detection model on an **NVIDIA Jetson**, configuring an **Ubuntu Linux** environment and optimizing **CUDA** acceleration for real-time performance * Implemented a **MQTT** communication protocol between the Jetson and the robot's main controller with **Java** for reliable, low-latency data transfer in competition environments * Collaborated with team to engineer and implement path-following algorithms for autonomous navigation in **Java** | | |
| **PERSONAL PROJECTS** | | |
| **Nolyn** *-* <https://nolyn.co/> | | **2023 - Present** |
| *Founded a startup to build a smarter stop-arm camera with a 5-person team, reducing costs from $3,000 to $30* ***(100x)*** | | |
| * Developed a cost-effective **IoT** stop-arm camera solution with **C/RTOS**, integrating **real-time image capture**, **wireless connectivity**, and **secure cloud interactions** via **AWS** (**DynamoDB database**, **S3**, **MQTT**) * Developed a custom **HTTP client** in **C++** from the ground up to enable secure cloud interactions, addressing limitations in existing libraries and successfully implementing form-data POST requests required for S3 integration * Implemented a **REST API** with **API Gateway and** **Lambda** to interface with the cloud, built a **ReactJS** admin portal for school officials to review violations * Automated deployments with **GitHub Actions CI/CD**, reducing deployment times by **100x** * Successfully deployed on Pitt County Schools' **200+ buses**, won the **Congressional App Challenge**, and secured a **$1,000 Amazon grant** in recognition of the project’s innovative approach to student safety | | |
| **ACADEMIC RESEARCH** | | |
| **UNC School of Medicine *- Machine Learning-Enhanced Electrocardiograms*** - Researcher | | **2024 - Present** |
| *Collaborating with a UNC School of Medicine cardiologist to leverage* ***AI*** *for cardiac anomaly detection.* | | |
| * Developed a robust data preprocessing pipeline using **Python**, **Pandas,** and **SciPy** to normalize ECG waveforms * Implemented **CNN** and **transformer** architectures—the same technology powering modern **LLMs** like ChatGPT—to detect cardiac anomalies. * Leveraged high-performance **Linux-based SLURM** environments to train computationally intensive models on large-scale medical datasets | | |
| **SKILLS** | | |
| **Languages:** **Python**, **Java**, JavaScript, TypeScript, C/C++, SQL, CSS, HTML, Rust  **Tools/Frameworks**: PyTorch, TensorFlow, machine learning, AI, LLMs, Linux, Git, CI/CD, AWS, Docker, embedded applications, Figma, RESTful API design, database design, web development, React, Svelte, Angular | | |