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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 | **Jun. 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** | | |
| **Pitt Pirates Robotics Club** – Chapel Hill, NC - Software Engineer | | Aug 2022 – Present |
| *Engineered and implemented C++ path-following algorithms robotics team's autonomous navigation system* | | |
| * Designed and implemented path-following algorithms for team's autonomous navigation system, utilizing PID controllers and trajectory optimization to achieve precise movement across complex arena obstacles * Programmed robot control software in C++, integrating sensor inputs and motion planning to improve autonomy performance, resulting in a 30% increase in autonomous scoring during regional competitions * Led a cross-functional team in developing a custom motion control framework that dynamically adjusted robot pathing based on real-time obstacle detection, implementing model-based control techniques to enhance precision and stability during autonomous operations | | |
| **Mozilla** – San Francisco, CA (Remote) – Open-Source Contributor | | Dec. 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** **a 200+ line commit** that resolved a critical type-checking issue | | |
| **PERSONAL PROJECTS** | | |
| **Nolyn** *-* <https://nolyn.co/> | | May 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 on ESP32, integrating **real-time image capture**, **wireless connectivity**, and **secure cloud interactions** via **AWS** (**DynamoDB** database, **S3**, **API Gateway**, **Lambda**, **MQTT**) * Built a **ReactJS** admin portal for school officials to review violations, automated deployments with **GitHub Actions**, and implemented **cloud-based motion detection** for accurate stop-arm violation detection * 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 | | Sep. 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 | | |