James Chong *Software Engineer*

jamesdchong@gmail.com 818-587-6113 github.com/jamesdchong linkedin.com/in/jamesdchong

EDUCATION

University of Illinois Urbana-Champaign Dec 2023 | Urbana, IL
Master of Science in Computer Science
GPA: 4.0

University of California, San Diego Jun 2022 | La Jolla, CA
Bachelor of Science in Computer Science
Major GPA: 3.7

PROJECTS

SELF-DRIVING CAR Mar 2024 – Jun 2024
- Researched, designed, and developed an autonomous car system using Python and Linux on Raspberry Pi, integrating the A* search algorithm for navigation and OpenCV for object detection, improving navigation efficiency by 33%.
- Accelerated TensorFlow object inference rate from 1 to 20 FPS by overcoming bottlenecks resolved through multithreading and frame queuing, decreasing processing time to under 200 milliseconds per frame.
- Incorporated a frontend Electron.js app by implementing manual operation features with wireless control via Wi-Fi and Bluetooth, deploying client-server communication for JSON data exchange, resulting in a 28% increase in data throughput.

ARCADE BASKETBALL GAME Aug 2023 – Dec 2023
- Constructed an arcade basketball game by connecting a Raspberry Pi and an ultrasonic sensor to a mini hoop, achieving a 96% accuracy in detecting scores.
- Established client-server communication with Python's socket module over Wi-Fi, reducing latency from 60 to under 30 milliseconds, ensuring real-time accuracy in score updates.
- Designed a scoreboard interface with HTML, CSS, and JavaScript, leveraging Electron.js and Node.js, displaying score updates under 100 milliseconds.

EVENTLIFE Jan 2023 – Apr 2023
- Directed a team to develop an Android application using Java and Firebase Realtime Database, creating a data-driven app with an engaging user interface, generating 300 users in the first month.
- Led full software development life cycle as Software Development Lead, GitHub and Agile methodologies to achieve a defect-free release and shorten development time from 6 to 4 months.
- Enhanced application performance through code optimization, algorithm improvements, and rigorous testing, reducing average load times from 5 seconds to 3 seconds.

TRITONTALK Mar 2022 – Jun 2022
- Developed a router in C to handle raw Ethernet frames, ARP caching, and IP routing using longest prefix match (LPM) based on a static network topology, managing up to 1000 packets per second with 0 packet loss.
- Improved packet handling by supporting IP, ICMP, and ARP protocols, diminishing error response times by 22%.
- Optimized ARP request handling with efficient caching and queue management, cutting unnecessary requests by 56% and lowering latency by 14%.

SKILLS

Python, Java, C, C++, C#, HTML, CSS, JavaScript, SQL, Raspberry Pi, Firebase, React, Visual Studio/Eclipse, Git/GitHub, Linux, Windows, Android, Agile Development, Software Development Lifecycle (SDLC)