HARRY JUNG

harryjng@umich.edu | harryjung.com | LinkedIn

EDUCATION

University of Michigan – Ann Arbor September 2021 - April 2025
B.S. in Computer Science

Relevant Coursework: Data Structures and Algorithms, Mobile App Development, Web Systems, Computer Organization, Artificial Intelligence, Linear Algebra, Computer Vision, Discrete Mathematics

SKILLS

- **Programming Languages**: Python, Java, C/C++, JavaScript, C#, Kotlin, Swift, MATLAB
- **Frameworks & Libraries**: React, Next.js, Node.js, Express.js, Flutter, TensorFlow, scikit-learn, OpenCV, FastAPI, OpenGL, NumPy, Pandas, Beautiful Soup
- **Tools & Platforms**: AWS, Docker, Git, MySQL/PostgreSQL, Linux, Android Studio, Figma, Unity3D
- **Methodologies & Practices**: Agile, CI/CD, AI/ML Automation, Keycloak, JWT, Jira, Confluence

EXPERIENCE

Akima Herndon, Virginia
Software Engineer July 2025 - Present

- Deployed an **AI-driven research platform** using **Next.js**, **FastAPI**, and **PostgreSQL** for the Department of Defense Information Analysis Center, reducing workflow time by **97%** (30 minutes → 1 minute).
- Integrated **AI/ML** with **AWS** (EC2, S3, RDS, OpenSearch) to accelerate document processing and search.
- Deployed **secure containers** with **Docker, Keycloak, and JWT**, improving reliability and compliance.
- Led the project in an **Agile Scrum environment**, managing sprints, backlogs, and stakeholder demos.

Akima Herndon, Virginia
Software Engineering Intern May 2024 - Aug 2024

- Built an **XR tool** with **Meta Quest 3**, **Unity3D**, and **C#** for accurate 3D construction site visualization.
- Cut design review time by **25%** and boosted collaboration efficiency by **30%** with virtual walkthroughs.
- Created a military **Emergency 911 system** using **React.js**, **Express.js**, **MySQL**, **AWS**, and **Leaflet**.
- Improved response time efficiency by **30%** with geospatial mapping and real-time data integration.

University Technological Club Ann Arbor, Michigan
Lead Website and App Developer April 2023 – April 2025

- Implemented club **mobile app** and **website** zetapi.tech with **Flutter** and **JavaScript**, featuring an automated event calendar system that eliminated scheduling conflicts.
- Engineered a secure **authentication system** with **RBAC** to manage member resources and access levels.
- Established a **CI/CD** pipeline with **GitHub** Actions, reducing testing and deployment time by **30%**.

Real-Time Computing Lab Ann Arbor, Michigan
Research Assistant April 2024 – Sep 2024

- Developed a **Kotlin** algorithm in **Android Studio** to prevent shoulder surfing with low user disruption.
- Optimized screen blurring for close distance reading while reducing wide angle recognition rates by **30%**.
- Conducted **user testing** to optimize visibility and security, leading to a **20%** reduction in CPU and memory usage through system improvements.

PROJECTS

WordSmith Mobile – AI-Powered Writing & Learning Platform Jan 2025 - May 2025

- Built **modular Course & Submission JSON system** on **Supabase** for profiles, progress, and exercises.
- Implemented **AI writing validation** with **OpenAI API** and **SwiftUI** for real-time grammar feedback.
- Created **Elo-based ranking system** in **Python** to adjust difficulty, track progress, and reward players.
- Integrated **voice-to-text, OCR**, and **text-cleaning** using **SwiftUI, Speech & Vision Frameworks**.

Autonomous Robotic Vehicle Machine Learning Team Sep 2023 – Dec 2023

- Devised **proximity** and **motor decision algorithms**, advancing toward a street-legal autonomous car.
- Refined **TensorFlow** and **OpenCV** for object detection, securing a **3rd place** finish at the IGVC.
- Designed training pipelines, processing **1000+** images with **sub-100ms** for real-time object classification.

Black and White Scene Colorization Sep 2024 - Dec 2024

- Constructed a colorization model in **Python**/**TensorFlow** to color black-and-white landscape photos.
- Preprocessed images in **LAB** color space and built a **CNN** to predict color classes and boost vibrancy.
- Achieved a score of **4.19/5** in surveys comparing colorized to real images, limited by a 1,000-image dataset.
- Tackled overrepresentation and improved performance through **ablation** and **hyperparameter** tuning.