Raymond House

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EDUCATION

University of California Irvine | B.S. in Computer Science | Specialization: Artificial Intelligence
- Irvine, CA (Graduating Winter 2026)

Core Courses: Compiler Design, Machine Learning, Computer Architecture, Java, C++, Algorithms, Data Structures

EXPERIENCE

Space Software Intern | iMETALX LLC.

2025 Sep ─ 2025 December
- Fall 2025 incoming intern on the Computer Vision team, working on space technology.

Android Development Researcher | UCI Gavin Herbert Eye Institute

2023 July ─ 2024 September
- Developed a CNN-based Android app in Java and Kotlin that identifies medication labels using object detection and text recognition. Published on Google Play store with **50+** downloads, used by several medical facilities.
- Optimized expiry date algorithm to **98% accuracy** and wrote methods to store/retrieve JSON data.

Software Engineer Intern | NeuroLeap Corp.

2023 Sep ─ 2024 January
- Developed API endpoints in **Go** for emails transactions, user registration, and user information changes using Sendinblue, along with session **token validation** for secure web processes.
- Conducted testing of all APIs using Postman and Postgres + SQL to ensure reliable backend functionality.

Data Analyst | Field AI

2024 April ─ 2024 August
- Assisted in training an AI-based autonomous vehicle using **semantic segmentation**, with LiDAR software.
- Pre-processed data and reviewed others' labeled data, keeping in mind the current performance of the model.

PROJECTS

HPC Image Processing Kernels *CUDA Toolkit, C++, Nsight Systems, OpenCV*
- Developed kernels which perform: **2D convolution** for images with RGB channels, image padding, and matrix multiplication in parallel utilizing **grid-stride loops** and replication padding. Default filter is Gaussian blur.
- Reduced data migrations using **async memory prefetching**, caused by initializing the image array with 8 bit image data and converting a float array to image in CPU– and memory is used by GPU in between.
- Profiled and analyzed performance for optimization using **Nsight Systems**.

Facial Landmark Detection Pacman *Python, OpenCV, Dlib, DearPyGui*
- Used computer vision to detect when a user's mouth is open on a randomly generated point.
- Used Dlib's facial landmark detection to extract users' lip points. Checks if lips are wrapped around the point using the **Point Polygon Test**. Displayed interface using DearPyGui, capturing user camera using open cv.

Biometrics Analysis Model *Sci-kit Learn, Python, Flutter, Dart, React, Typescript, Firebase*
- Developed a machine-learning based app using Flutter that identifies heart arrhythmias in a patient's pulse.
- Evaluated user data with **Sk Learn** model trained on an ECG dataset of 100,000+ patients, **serialized** with pickle.
- Doctors and patients are authenticated using **Google Cloud** (firebase) and registered on a React/TS website.

TECHNICAL SKILLS & CERTIFICATES

Certificates: NVIDIA Accelerated Computing in CUDA C/C++, Accelerated Computing with CUDA Python
Languages: Java, Javascript, Typescript, C++, Python, Go, Kotlin, Dart, SQL
Software: Visual Studio, Nsight Systems, JetBrains Suite, Android Studio, Google Cloud, Docker, Postman, Linux
Frameworks/Libraries: CUDA, React, Prisma, Vue, Flutter, ML Kit, Pandas, Sci-kit Learn