

# Raymond House

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## Technical Skills

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- Cloud Architecture & Distributed Systems
- Object Oriented Programming
- Full Machine Learning Lifecycle
- CI/CD Pipelines
- Linux/Windows
- Full-Stack Web Development
- 3D Vision Prototyping
- Git/Version Control
- SQL/NoSQL Databases
- Networking & Security

**Languages** Python, Typescript/JS, C++, Java Go, SQL, Bash

**Software** AWS(EC2, Batch, S3, Amplify, ECR, CloudFront), JetBrains Suite, Wireshark, GCP, Docker, Postman, Git, Gitlab CI

**Frameworks/Libraries** Next.js, React, Vue, Flutter, OpenCV, Pytorch, Pandas, COLMAP, Nerfstudio, Flask

## Experience

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**Software Engineering & Security Intern** | IMETALX LLC.

2025 Sep — Present

- Designed and launched the core web platform for the company's 3D reconstruction pipeline, owning development **end-to-end** (Supabase auth/database, gaussian splat viewer, AWS integration, ChatGPT-style landing page) in a startup environment.
- Resolved a critical networking bottleneck (router/firewall IP overlap) by redesigning subnets and remapping cabling, eliminating recurring outages and documenting a **network security SOP** aligned to **NIST 800-171 / CMMC L2**.
- Refactored a **5k-line** HIL pose tool into modular OOP components, reducing code size by **~50%** and merging the pipeline into a **single Docker image** for ECR, easing CI/CD and deployments.
- Prototyped and debugged SoTA 3D vision methods (Volumetric SDF, NeRF, Gaussian Splatting) on terrestrial datasets.

**Android Development Researcher** | UCI Gavin Herbert Eye Institute

2023 July — 2024 August

- 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 by **40%** and wrote methods to store / retrieve JSON data in internal storage.

**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.

**Personal Projects** | Multiple projects across various environments

2022 April — Present

- Wrote a compiler front-to-back: CFG construction, **SSA form**, and DLX codegen; visualized IR with **Graphviz/DOT**.
- Shipped games and content to an audience of **~45k subscribers**, practicing rapid feedback loops and observability.
- Developed image processing kernels that run 2D convolution and matrix multiplication in parallel using **grid-stride loops**. Reduced data migrations using async memory prefetch. Earned NVIDIA certifications in CUDA.
- Built a **phone-camera PPG** pipeline (signal QC, peak detection, classical ML classification) and a **doctor/patient portal** (Next.js) for reviewing sessions; implemented on-device preprocessing to keep PHI off-device by default.

## Education

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University of California Irvine — B.S in Computer Science (June 2025)

Irvine, CA