Richard Dang

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Education

Oregon State University — Expected: March 2028
Master of Engineering in Computer Science

New Jersey Institute of Technology — December 2025
Bachelor of Science in Computer Science — GPA: 3.95 / 4.0

Skills

Languages: Python, C/C++, TypeScript, JavaScript, GraphQL, SQL, Go, Bash, PowerShell, Swift
Frameworks: React, FastAPI, JAX, LangGraph, LangChain, Flask, WebSocket, Node.js
Cloud/Tools: AWS, GCP, Azure, PostgreSQL, MySQL, MongoDB, Docker, Kubernetes, Git, Redis, Postman, Jira, Jenkins

Experience

Venera AI — April – August 2026
Software Engineer — Brooklyn, NY

- Reduced cross-system healthcare data errors by **7%** across **2K hospitals** by architecting the foundational FHIR Base and Core profiles for Vietnam, standardizing national healthcare data exchange and validation rules.
- Enabled **2K hospitals** to process, analyze, and transform clinical data into JSON formats by using Python, FastAPI, and a fine-tuned GPT OSS model to develop and deploy **9 AI-powered** and **16 core APIs** on Azure.
- Powered AI chat services for **1K users** by designing PostgreSQL schemas for user conversations and LLM interactions.

Crane Co. — June – August 2025
Software Engineer Intern — Saddle Brook, NJ

- Reduced team manual QA time by **80%** by engineering a Linux-based automation system that built and tested firmware projects and logged errors to SQLite database via Jenkins.
- Replaced a proprietary GUI with automated PowerShell and Python scripts to flash firmware to STM32 devices.
- Reduced STM32 communication latency from **2 seconds** to near **0 second** by replacing a PuTTY interface with pySerial integration.
- Mitigated STM32 downtime risk by building an automated SMTP email alert system that flagged **10+ CI/CD failures**.

Justworks — May – August 2024
Software Engineer Intern — New York, NY

- Enabled **1K employees** to monitor payroll transactions by enhancing internal infrastructure using Ruby on Rails.
- Developed a Payroll Stats page with React and ActiveRecord for live monitoring, reducing PagerDuty alerts by **5%**.
- Designed Payroll Week API to retrieve invoice data, reducing analysts' manual data query time by **60%**.
- Optimized invoice data queries, reducing execution time from **8 minutes** to **30 seconds** through SQL optimization.
- Reduced Payroll Stats page latency from **30 seconds** to **1 second** by implementing Redis cache for frequently accessed payroll data.

Westlock Controls — May – August 2023
Software Engineer Intern — Saddle Brook, NJ

- Enabled real-time IoT data ingestion by transmitting **2K data points** from ADXL345 accelerometer to AWS S3 Bucket via MQTT protocol in C/C++.
- Improved valve anomaly detection by **100%** by replacing Mahalanobis Distance with Random Cut Forest algorithm in Python on Amazon SageMaker, detecting **18 abnormal vibrations** and enabling a new sensor device launch.

Projects

Optimize Image Segmentation with Parallel K-Means Clustering | *C++, MPI, CUDA, OpenCV, Linux, Python, Git*

- Led a team of **3 members** to implement **4 versions** of K-Means Clustering using MPI and CUDA to accelerate image segmentation on **45+ images** by **71%**.
- Converted each image into up to **2M RGB pixels** using OpenCV and distributed across **2 GPUs** in C++, parallelizing distance calculations and centroid updates.

Festival Itinerary AI Multi-Agent | *Python, React, TypeScript, LangGraph, FastAPI, Gemini API, GCP Vertex AI, Git*

- Led a team of **3 members** to build a multi-agent AI app on Cloud Run and deploy with NVIDIA L4 to generate global festival itineraries in **8 seconds**, using Gemini 2.5 Pro API, Python, and React (TypeScript).
- Orchestrated **4 agents** (Hotel, Flight, Weather, Budget) with LangGraph, providing end-to-end itinerary planning with real-time travel and **30%** cheaper itineraries than manual planning.

Leadership

Google Developer Student Club — April 2022 – July 2024
President — New Jersey Institute of Technology

- Selected as **1/80 Presidents** from **200+ applicants** across North America to attend Google I/O 2024, 2025.
- Hosted **19 workshops** by collaborating with Google, JPMorgan, and Prudential, increasing attendance by **50%** per event.