

Gautham Hari

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EDUCATION

University of Maryland

B.S. Computer Science, Math Minor, BSE Scholar — 3.9 GPA

College Park, MD

Expected May 2028

EXPERIENCE

Listing Labs (listinglabs.io)

Founder

Bethesda, MD

2025 – Present

- Built and shipped a full-stack voice AI training platform for real estate agents in Next.js, GPT-4o-mini, Convex, and Clerk, deployed to production and used by agents across multiple businesses
- Designed an emotion-aware analysis layer that scores agent responses on each simulated call, drawing on my own experience as a licensed agent to define what the platform should measure
- Extended the backend with a versioned FastAPI inference layer, Prometheus metrics endpoint, structured JSON request logging, and a SQLite experiment tracker for comparing prompt and model revisions
- Set up a GitHub Actions CI pipeline with a mocked pytest suite so inference changes could ship without hitting live model endpoints

Montana Technological University

Software Engineer Intern

Butte, MT

June 2025 – Sept 2025

- Improved multispectral image alignment accuracy by 20% by building an OpenCV pipeline using SIFT and SURF feature detection to register image bands for mine-tailings classification
- Reduced geospatial processing time from 20+ hours to 10 minutes by automating legacy image-processing and ArcPy workflows previously run manually
- Processed and validated 60+ multispectral images across 6 datasets by tuning feature-matching thresholds, filtering incorrect correspondences, and comparing registration quality across methods

Keller Williams Capital Properties

Real Estate Agent

Bethesda, MD

June 2025 – Jan 2026

- Supported more than \$1.5M in residential transactions by coordinating property analysis, documentation, contractor communication, and client decisions across Maryland
- Identified properties priced up to 9% below comparable market value by analyzing MLS data, recent sales, property condition, and neighborhood pricing trends

PROJECTS

Systems Programming in C, Rust, and OCaml

- Built a concurrent TCP echo server in C using the BSD socket API with a poll-based event loop, pthreads, graceful SIGINT shutdown, and a Bash-driven parallel client harness verified under valgrind
- Implemented reference counting, mark-and-sweep, and stop-and-copy garbage collection twice over, once in Rust and once in OCaml, alongside memory allocators, a shell, and mmap-based IPC in C
- Built lexers, parsers, type checkers, and an interpreter in OCaml with module-scoped record types and explicit .mli interfaces, validated by an Alcotest suite covering happy-path, type-error, and parse-error cases

Drone Attack Risk Classification Platform

- Built on Palantir Foundry, scoring 214,000 global energy facilities by attack probability and civilian impact using public incident, infrastructure, and population datasets
- Implemented an interactive map and a natural-language chatbot for querying infrastructure risk

Dancify

- Won Most Innovative Solution at Pitch Dingman UMD 2025 (\$3,000 funding) for an ML dance learning platform built with React Native, TypeScript, TensorFlow, and BlazePose for real-time pose detection
- Shipped a second native implementation in Swift using Apple's VNHumanBodyPoseObservation framework

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, C, Rust, OCaml, Java, Swift, SQL

Frameworks: Next.js, React Native, Node.js, FastAPI, PyTorch, TensorFlow, OpenCV, NumPy, Pandas, Tailwind

Tools & Infra: Docker, GitHub Actions, Git, Prometheus, SQLite, Supabase, Convex, Palantir AIP, Azure

Certifications: Microsoft AZ-900 Azure Fundamentals (Dec 2024)