

ANSHUMAN RANJAN

248-826-3129 | anshumanr10@gmail.com | Columbus, OH

github.com/anshumanr10 | [linkedin.com/in/anshumanranjan](https://www.linkedin.com/in/anshumanranjan) | anshuman-portfolio.lovable.app

OBJECTIVE

Computer Science graduate seeking **full-time position** that involves problem solving across various engineering disciplines

EDUCATION

Ohio State University

Bachelor of Science in Computer Science and Engineering

Columbus, Ohio

Graduating December 2026

PROFESSIONAL EXPERIENCE

Ohio State University College of Engineering

Machine Learning Undergraduate Research Assistant

Columbus, OH

August 2026 – December 2026

- Investigating the viability of deploying state-of-the-art **voice cloning** architectures (F5-TTS, CosyVoice 2, XTTS-v2, OpenVoice V2) to replicate and enhance human speech inputs for **assistive hearing** hardware.
- Built speech-processing pipelines to improve speech model intelligibility across diverse signal-to-noise ratios.

OCLC

Software Engineer Intern

Dublin, OH

May 2026 – August 2026

- Designed and shipped a full-stack, end-to-end **Google & Apple Wallet integration** using Google and Apple PassKit REST APIs: the web server generates a customized pass, cryptographically signs it, and hands it off to the correct Android/iOS build.
- Engineered with attention to **accessibility, analytics, logging, user-dashboard, zero PII** in Capira Databases.
- Adopted by 200 libraries and total 15,000 custom wallet passes generated in production after deployment.

Vision House Project Non-Profit

Embedded Networking Engineer

Columbus, OH

February 2026 – June 2026

- Designed and implemented an **off-grid local AI security camera** system with recording, identification, and owner notification features; processes real-time video streams from 3 solar-powered cameras
- Benchmarked YOLO-model performance on network-edge vs. base-station compute (**Raspberry Pi, NVIDIA Jetson, RTX 3060**). Containerized in **Docker** for deployment to various edge devices
- Developed full-stack video streaming support over P2P WebRTC, RTSP, and UDP protocols.

PROJECTS

Passive Network Vulnerability Audit of IoT Devices | *Wireshark, PyShark, Hugging Face, Ghidra*

2026

- Developing tool that analyzes encrypted IoT network metadata to passively detect background telemetry, beaconing, and local network scanning in raw PCAP traffic
- Building flow-classification pipeline with LLM layer to generate traffic behavioral security reports.

Deep Learning Cross-Attention Model (SCOTUSPredict) | *ModernBERT, PyTorch, Pandas*

2026

- 24-Hour Hackathon Event (2nd Place Winner) — Developed a model that analyzes case briefs, oral arguments, and historical patterns to predict Supreme Court outcomes before they are announced (Achieved 65% Accuracy)
- Raw JSON → Clean Data → Chunked Transcripts → Deep Learning Cross-Attention Model → Optimization

Energy Usage Data Visualization | *Pandas, Google Geocoding, Lovable Frontend*

2025

- 12-Hour Hackathon Event — Developed a visual model that displays OSU building resource consumption
- Pre-processed and cleaned data from 100+ buildings to allow viewers to discover trends in energy usage over seasons, geographical location, and building type

CERTIFICATIONS

Amazon Web Services Certified Cloud Practitioner (CCP)

SKILLS

Languages: Python, Java, Kotlin, Swift, C, C++, Ruby, JavaScript, SQL, HTML/CSS, Bash, x86-64 Assembly **Machine Learning & AI:** TensorFlow, NumPy, Librosa, Natural Language Processing, Mel Spectrogram, Reinforcement Learning, Neural Network Architecture, Model Evaluation & Threshold Calibration, Agentic AI Workflows, Model Context Protocol (MCP), Retrieval-Augmented Generation (RAG), Claude Code, Cursor, Databricks **Cyber Security:** Zero Trust Model, Principle of Least Privilege, Privacy-by-Design / PII Handling, Network Security, Software Security **Mobile & Full-Stack:** Android Studio, Jetpack Compose, Xcode, SwiftUI, Ruby on Rails, FastAPI, Elasticsearch, PostgreSQL, MVVM, MQTT, Git/GitHub, CI/CD, Linux, systemd, Embedded Systems, PowerShell, Object-Oriented Programming, Design Patterns, Test-Driven Agile Development

LEADERSHIP & AWARDS

Student Director, OSU Entrepreneurship Program

Master of Ceremonies, LaunchpadOSU Startup Weekend

State Semifinalist, Michigan Forensics Oratory (2x)