

JAMES HOLLY

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EDUCATION

Wentworth Institute of Technology, Boston, MA

Expected Aug 2026

B.S. Computer Science | GPA: 3.55 / 4.00 | Dean's List: Spring/Fall 2024, Spring/Fall 2025

- **Relevant Coursework:** AI Applications, Network Programming, System Administration, Operating Systems, Databases, Algorithms, Software Engineering

TECHNICAL SKILLS

AI / ML: LAION CLAP embeddings, Qdrant vector DB, semantic similarity search, async ML pipelines (Celery), AI integration, FastAPI

Networking / Security: Packet capture and analysis (Scapy, Wireshark), TCP/IP, DNS, HTTP, ARP, anomaly detection, port scan and SYN flood detection, sliding window algorithms, static and dynamic IP configuration

Languages: Python, Java, SQL, C, JavaScript, TypeScript, Go, F#, HTML / CSS

Frameworks / Tools: FastAPI, Gin, React, Celery, Redis, PostgreSQL, MySQL, pytest, Git, .NET, PyInstaller, Rich

Platforms / Systems: Linux, IBM Cloud, Okta, Jamf, macOS, Windows

PROJECTS

Vibracy — AI Audio Discovery Platform

Jan 2026 — Mar 2026

Solo Project — Python, Go, FastAPI, React, TypeScript, PostgreSQL, Qdrant, Redis, LAION CLAP

- Built an AI driven full stack platform where users upload audio and discover acoustically similar sounds via semantic vector search across audio and text queries.
- Integrated the LAION CLAP model to generate audio and text embeddings, stored in a Qdrant vector database for sub second similarity retrieval at scale.
- Designed a multi service backend: a Go / Gin file service for uploads and auth, a FastAPI search and social API, and Celery workers for async ML processing.
- Implemented social features (follows, friend requests, activity feeds, public profiles), waveform playback via wavesurfer.js, and a Freesound seed pipeline.

Packet Tracer — Network Security Monitor

Feb 2026 — Mar 2026

Solo Project — Python, Scapy, Rich

- Captured packets from live interfaces and .pcap files, parsing them into typed dataclasses across 7 protocol layers (Ethernet, IP, TCP, UDP, DNS, HTTP, ARP) and streamed a real time terminal dashboard.
- Engineered 4 stateful anomaly detectors using sliding window algorithms (port scan, SYN flood, ARP spoofing, ARP flood), each threshold tunable through a central config file.
- Built a 47 test pytest suite running against real Scapy packets with no mocking, and packaged the tool as a standalone Windows .exe with a desktop GUI.
- Structured a clean 5 layer modular architecture (capture → dissector → analyzer → display) and managed the project end to end with Git and GitHub.

DocSphere — Networked Document Editor

Sep 2024 — Nov 2024

Group Project (3) — Python

- Created a synchronized multi user document editor on a threaded client / server TCP architecture, queuing edits before broadcast to reduce sync errors across concurrent sessions.
- Implemented an integrated chat channel using tkinter, json, os, socket, and threading for real time collaboration over the same connection.

EXPERIENCE

Harvard University Information Technology, Cambridge, MA

May 2025 — Aug 2025; Jan 2026 — May 2026

Technical Support Engineer (Co-op)

- Contributed 22% of total team output on a 6 person engineering team during the quarter, the highest individual share, while supporting 200+ device deployments and refreshes across the university.
- Troubleshoot wired and wireless connectivity, authentication, and software issues across an enterprise university network, applying static and dynamic IP configuration.
- Performed secure data migrations to mirror user environments, ensuring seamless device transitions with minimal faculty downtime.

Nor'East Bait, LLC, York, ME

Aug 2020 — Aug 2025

Quality Control Officer, Production Manager

- Supervised teams of up to 6, managed perishable goods inventory, and operated electrical and gas powered forklifts.