ALAN SZMYT

ENGINEER

WORK EXPERIENCE

MIT Lincoln Laboratory

Software Engineer, Associate Staff

Lexington, MA | April 2019 – Present

- Led mobile app development for Kotlin-based GIS tools, implementing offline-first capabilities and secure authentication (Keycloak, SQLite, Jetpack Compose).
- Developed full-stack geospatial decision support tools, integrating React, Kepler.gl, Deck.gl, and Redux for real-time data visualization.
- Built a Python-based data triage tool using Elasticsearch, Apache Tika, Stanford CoreNLP, improving document search & metadata indexing.
- Designed scalable APIs using Flask, GraphQL, PostgreSQL/PostGIS, and TileDB for geospatial data storage and querying.
- Built Python ETL pipelines for transforming NetCDF, CSV, and GeoJSON data into structured datasets.
- Developed a blockchain-based GIS prototype using Ethereum smart contracts (Solidity, Ganache) for secure message storage.
- Architected DevOps & Infrastructure, deploying with Kubernetes, Docker, Pulumi, MinIO, Caddy (Reverse Proxy), and CI/CD pipelines for automated deployments.
- Extended QGroundControl (C++ drone software) for custom drone tracking API integration.
- Worked internationally to provide technical support and training for deployed software.

Taylor Networks

IT Support Technician

Billerica, MA | October 2017 – September 2018

- Configured Cisco ASA 5506 firewalls, setting up Site-to-Site VPNs for secure remote access.
- Maintained Windows Server environments, managing user accounts, file permissions, and system security.
- Provided on-site & remote IT support for clients, troubleshooting network, hardware, and software issues.
- Installed & optimized Windows machines, deploying endpoint security and system monitoring tools.
- Assisted with web maintenance, making minor HTML/CSS updates and migrating sites to new hosting environments.

Incompris LLC
Founder & Music Business Architect

Independent | 2023 – Present

- Established Incompris LLC, a digital music label integrating music production, automation, and financial structuring.
- Developed an automated royalty collection system, using DistroKid, ASCAP, and SongTrust for income tracking.
- Built AI-assisted mastering workflows, leveraging Matchering (Dockerized) for browser-based sound processing.
- Designed a SoundCloud presence, integrating branding, AI-generated visuals (Stable Diffusion), and community engagement.
- Optimized digital infrastructure, using ZenBusiness, Notion, and GitHub for business automation and documentation.

EDUCATION

Boston University
Master of Science in Software Development

Boston, MA (Online) | Graduated April 2023

- Focused on software engineering, full-stack development, and system architecture.
- Key Courses: Advanced Programming Techniques, Software Design and Patterns, Mobile Development with Android, Software Engineering.
- Capstone Projects:
  - Developed a WAV file metadata processing tool in Python, working with audio file structures.
  - Built an Android beatmaker app using Java Native Interface (JNI), Oboe (C++), and Kotlin.
  - Designed a music recommendation system, researching algorithmic personalization.
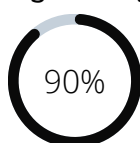
University of Massachusetts Lowell
Bachelor of Science in Computer Science (Mathematics Minor)
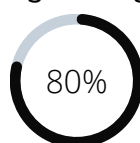
Lowell, MA | Graduated January 2017

- Coursework in systems programming, algorithms, cryptography, and applied mathematics.
- Key Courses: Operating Systems, Data Structures, Computer Graphics, Analysis of Algorithms, Discrete Mathematics.
- Independent Study: Participated in a Blockchain Research Group, exploring decentralized networks, cryptographic security, and smart contracts.
- Balanced full-time coursework while working 25+ hours per week.
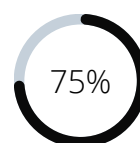
SKILLS SUMMARY

Software Engineering	Audio Engineering	Data Science	Project Management
90%	80%	75%	85%