Matthew Gries

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EDUCATION

Northeastern University Boston, MA

Bachelor of Science in Computer Science, Concentration in Artificial Intelligence *May 2022*

- GPA: 3.9/4.0.
- Honors: Summa Cum Laude, Computer and Information Sciences: Undergraduate RISE Category Award.

SKILLS

Proficient Languages: Java, TypeScript, Python.
Languages with Experience: Rust, JavaScript, C/C++.
Libraries and Frameworks: React.js, Next.js, OpenAI SDK, Prisma ORM, Axum, PyTorch, PySpark.
AWS: DynamoDB, Lambda, ECS Fargate, SQS, API Gateway, CloudWatch, CloudFormation, OpenSearch.
Gen AI: Amazon Q CLI, Claude Code, Cline, Kiro.

EXPERIENCE

Amazon

Software Development Engineer - Amazon Business Org *Apr. 2024 – Present*

- Designing and developing service-based solutions in Java, TypeScript, and Python for the Amazon Business Services team, complementing customer business purchases to reduce costs and improve operational efficiency for Amazon Business clients.
- Led end-to-end design, implementation, and release of full-stack web application that enables program managers to manage customer onboarding configuration data, supporting Amazon Business's growth from 20 to 500 customer service agreements in 2025.
- Architected and executed multi-stakeholder migration of vending machine authorization system across internal teams and external vendors, analyzing end-to-end pipelines to solve critical badge access issues, reducing user escalations by 60% for 93,000+ employees across 116 sites.

Software Development Engineer - Amazon Robotics Org *July 2022 – Apr. 2024*

- Developed and deployed robotic planning software in Java as part of the Amazon Sequoia project to automate management of fulfillment center inventory using robotic solutions.
- Led effort to create a serverless web application using AWS Lambda and API Gateway to provide tooling to quality assurance engineers, promoting greater performance and regression testing of overall solution.
- Owned effort to develop and support an AWS Lambda service to transfer inventory from previous solution's fulfillment center floor to Sequoia's floor, leading to 2.1 million items of inventory being transferred before holiday peak season.

MORSE Corporation

Python Engineer Co-op *Jan. 2021 – Sep. 2021*

- Implemented research on generating and evaluating machine learning test sets into production-level software.
- Integrated project into machine learning pipelines using PySpark.
- Engaged in bi-weekly agile sprints with team members.

Kostas Research Institute

Machine Learning Engineer Co-op *Jan. 2020 – June 2020*

- Researched and developed drone classification models using PyTorch and acoustic data collected from drones.
- Analyzed performance metrics and validated effectiveness of models using Scikit-learn and techniques such as cross-validation.
- Presented findings to Northeastern and KRI faculty in formal scientist meetings.

PROJECTS

LinguAmi Language Learning App *Jan. 2025 – Present*

- Built full-stack language learning platform with Rust/Axum backend and Next.js frontend, enabling users to upload videos, generate AI-powered transcripts, and create personalized vocabulary lexicons from multimedia content.
- Architected distributed microservices system with multi-mode operation (API server, async workers, cron jobs) using PostgreSQL, Redis caching, AWS S3 storage, and background job queue for scalable video transcription processing.
- Implemented video/audio processing pipeline with FFmpeg integration for media extraction, OpenAI API for transcription and language analysis, and timestamp-based segment tracking with custom vocabulary occurrence detection.
- Designed JWT-based authentication and role-based access control with usage limits, structured error handling, and RESTful API supporting job management, vocabulary CRUD operations, and audio journaling features for language learners.