

Antonia Mugisa

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EDUCATION

Dalhousie University

Halifax, NS

Bachelor of Computer Science in Computer Science,

Jan 2020 – Aug 2025

- **Coursework:** Data Structure & Algorithms, Object Oriented Programming, Software Engineering, Operating Systems, Mobile Computing, Machine Learning & AI, Database Systems

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript (ES6+), TypeScript, HTML, CSS, SQL, Swift, Terraform, Bash

Frameworks: ReactJS, Node.js, Express.js, Next.js, Tailwind CSS, Bootstrap, Redux, Jest, JUnit

Developer Tools: Git, Docker, TravisCI, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse

DevOps: CI/CD pipelines, REST APIs, GraphQL, Terraform, Linux CLI, Kubernetes

Databases: MongoDB, MySQL, PostgreSQL, Firebase Realtime DB, Firestore

EXPERIENCE

Software Engineer Intern

May 2024 – August 2024

Avanade

Halifax, NS

- Investigated the development of a Retrieval-Augmented Generation (RAG) pipeline by integrating Azure Cognitive Search with OpenAI's large language models to retrieve and generate accurate responses from complex datasets, achieving over 90% answer precision in test scenarios.
- Built an AI-powered lease document reader using Azure Form Recognizer, Python, and Azure Functions, enabling efficient indexing and querying of information, reducing search time from minutes to under 10 seconds.
- Optimized OpenAI embedding models and enhanced Retrieval-Augmented Generation pipeline performance, improving QA accuracy to 95% in benchmark tests
- Integrated NLP capabilities into applications and optimized LLM embeddings, contributing to chatbot architecture design and performance evaluation.

Software Engineer Intern

May 2023 – Aug 2023

Avanade

Halifax, NS

- Implemented and managed Azure services, compute (VMs and App Services), storage, and networking, enabling scalable support for the client's large-scale legal document processing workloads.
- Automated deployment processes using PowerShell, Kubernetes, Docker, and Terraform, ensuring continuous integration and deployment (CI/CD) pipelines for cloud infrastructure.
- Developed orchestration scripts and workflows for managing dependencies across distributed Azure resources, improving cloud response times and reducing manual intervention in deployment cycles.
- Collaborated with cross-functional teams to migrate the firm's legacy services from on-premises to Azure, optimizing architecture for cloud-native performance and resilience.

PROJECTS

Emotify | *ReactJS, NextJS, Firebase Database, Gemini-AI*

Jan 2025 – Apr 2025

- Built an AI-powered calendar extension with Gemini AI and Firebase that allows users to log moods and receive personalized check-ins and playlist recommendations, tailored for student and professional well-being, using LLM-based responses and mood prediction prompts.
- Implemented role-based authentication using Express.js, MongoDB, and JWT, securing access to admin and user dashboards with token expiration and refresh token logic.

AniDojo | *Next.js, TypeScript, PostgreSQL, OpenAI API, Tailwind CSS*

Sep 2025 – Present

- Developed full-stack social platform using Next.js, TypeScript, and PostgreSQL enabling users to rate/review anime episodes with AI-powered recommendations
- Architected granular review system allowing users to rate individual episodes, increasing user engagement by 40% compared to series-only platforms
- Designed PostgreSQL schema with Prisma ORM and integrated Jikan API for anime metadata, supporting complex queries for 10,000+ anime titles