Luisa El Amouri

902-997-1240 | luisaamouri@dal.ca | linkedin.com/in/luisa | github.com/luisaamouri | luisaamouri.com

EDUCATION

Dalhousie University — Halifax, NS
Bachelor of Computer Science (Honours), Minor in Neuroscience — *Sep. 2022 – Dec. 2026*

EXPERIENCE

Full Stack Software Engineer — September 2024 – March 2025
Mozrt Financial Technology — *Minneapolis, MN*
- Developed 10+ new features for a client-facing API using React (TSX/JSX), improving usability and functionality
- Maintained and optimized a secure banking operations core using PostgreSQL, managing sensitive client data and enabling reliable, high-volume transaction processing for 1,000,000+ customers
- Refactored backend and frontend codebases, covering 70% of the repository to improve maintainability, using scripts to automate the process

Junior Developer — January 2024 - August 2024
HRO Core Inc. (Now HumanKind HR) — *Halifax, NS*
- Led the website renewal project, from requirement gathering to launch, managing communication efforts and facilitating feedback meetings
- Designed and developed a new company website which led to a 100% increase in website traffic and 20% surge in prospective clients, prototyping with Figma and building with Javascript, HTML, CSS
- Implemented cybersecurity best practice policies both internally and for 10+ external clients

CSE Connector Team Member and Matrix Teaching Assistant — August 2023 - June 2024
Dalhousie Faculty of Computer Science — *Halifax, NS*
- Delivered engaging public presentations on computer science to secondary schools across Nova Scotia, speaking in front of audiences of 100+
- Worked as a teacher's assistant for One North End's Matrix CODE, supporting a class of 10+ students in understanding programming and mathematical concepts
- Generated new activities, interactive sessions, and programs presented at tech events to boost computer science awareness for secondary students and underrepresented groups

RESEARCH AND PROJECTS

Invention of Symbolic Communication in LLMs | *Python, Docker, NumPy, OpenAI* — August 2025 - Ongoing
- Analyzing and evaluating LLMs' abilities in emergent communication, program synthesis, and inductive reasoning
- Developed a domain specific language prototype to provide structured context to LLMs, enabling them to generate executable Python code with iterative refinement, achieving <5% error rate
- Built a logging framework to store trial IDs, prompts, outputs, correctness metrics, and semantic markers in JSON for reproducible experiments

Quick Cash | *Java, Android Studio Firebase, Mockito, JUnit, Git* — June 2025 – July 2025
- Built a full-stack Android application using Java, a RESTful API, and Firebase backend services
- Implemented secure authentication, PayPal payment integration, and Google Maps API to support encrypted transactions, location based job discovery, and in app transactions
- Optimized CI/CD pipelines with GitLab, visualizing collaboration metrics for sprint reviews
- Delivered high-quality, tested code using JUnit, Mockito, and Espresso

Custom Terminal Shell | *Linux, C, Multi-threading, System Programming* — October 2024
- Developed a Unix-like shell in C with multi-threaded process management to execute commands concurrently
- Leveraged low-level Linux system calls, memory management, and signal handling to manage processes efficiently

Climate Analysis | *MySQL, Python, Data Analysis* — March 2024
- Designed and implemented a relational MySQL database to analyze climate change factors, including surface temperature, deforestation, GDP, and CO emissions
- Optimized data modeling to support efficient queries and accurate statistical insights
- Conducted exploratory data analysis to uncover trends influencing environmental changes

SKILLS

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, TypeScript, HTML/CSS, R, LaTeX
Frameworks/Tools: React, Next.js, Node.js, Material-UI, JUnit, Git/GitHub, Linux/Unix, AWS, Azure
Core Competencies: Object-Oriented Programming, UML, Machine Learning, Agile, Software Design & Development, Testing/QA, Cybersecurity, Data Modeling
Interpersonal: Leadership, Collaboration, Communication, Adaptability, Problem Solving, Attention to Detail