

# ABDEMALEK ANES

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[LinkedIn](#) | [GitHub](#) | [Website](#)

## LANGUAGES

English, Spoken & Written | French, Spoken & Written

## TECHNICAL SKILLS

**Front End:** React, Angular, Tailwind CSS, TypeScript, Next.js  
**Back End:** Java/Spring Boot, Python/Django, C#, C/C++, Go, Node.js/Express.js  
**Other:** Azure, AWS, Docker, Jenkins, Git, Jest, JUnit

## WORK EXPERIENCE

### Embedded Software Developer Intern at Caterpillar

Fall 2024 - Winter 2025

Laval, Quebec

- Developed backend features for autonomous mining machines using **C++** and implemented machine control interfaces using **Angular**
- Debugged critical backend issues and developed automated test procedures to validate software modules, improving system reliability by **40%**
- Analyzed requirements, specifications, and validation test plans to align software development with project goals, ensuring compliance with **safety standards**
- Collaborated in a scaled **Agile** environment with cross-functional teams, participating in daily standups and sprint planning to optimize development workflows

### Software Developer Intern at Bombardier

Summer 2023

Montreal, Quebec

- Engineered data pipeline solutions using **Power BI** and **DAX**, implementing advanced filtering algorithms that reduced reporting time by **65%**
- Developed **Python** and **Power Automate** automation scripts that streamlined routine processes, saving **20+ hours** weekly in operational tasks
- Architected and deployed scalable **Azure SQL** database solutions, achieving **99.9%** uptime and **30%** improved query performance
- Delivered executive presentations highlighting automation achievements, demonstrating **\$50K** annual cost savings and **85%** reduction in data processing errors

## PROJECTS

### Stack-Based Virtual Machine | *Rust, Next.js, TypeScript*

Winter 2025

- Designed and implemented a stack-based virtual machine with an interactive web interface for real-time program execution
- Created a custom assembly language parser with comprehensive **error handling** and **debugging capabilities**
- Built an intuitive frontend using **Next.js** and **TypeScript** with real-time visualization of machine state

### Distributed Task Processing System | *Go, Redis, Next.js, React*

Winter 2025

- Built a scalable distributed task processing system with **auto-scaling workers**, **priority queues**, and a **real-time dashboard**
- Implemented a **React**-based monitoring interface with **dark mode**, worker management, and task submission
- Leveraged **Redis** for fault-tolerant task distribution and **RESTful APIs** for frontend integration

### Quolance | *Spring Boot, React.js, Next.js*

Fall 2024 - Winter 2025

- Developed a freelancing platform where clients can collaborate with freelancers
- Architected and implemented a full-stack application using **Spring Boot** backend and **React/Next.js** frontend
- Implemented comprehensive testing strategy with **JUnit/Mockito** for backend and **Cypress** for E2E testing

## EDUCATION

### Concordia University

Winter 2022 - Winter 2025

Bachelor of Engineering, Software Engineering

Montreal, QC

### Vanier College

Fall 2019 - Winter 2021

DEC, Health Science

Montreal, QC