YANIS AKSAS

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WORK EXPERIENCE

MMPROD — **Montreal, QC**
Freelance Developer — Sep 2024 - Dec 2024
- Developed and implemented a PDF/DOCX translation application using MarianMT machine learning framework, enabling the translation of a 200-page book in under 10 minutes
- Engineered an automated translation pipeline that expanded client's market reach to 3 new territories

FENIX — **Montpellier, France**
Software Engineer Intern — May 2024 - Aug 2024
- Redesigned the company website by enhancing UX/UI elements using JavaScript, increasing visits by 45% and boosting the conversion rate by 85% post-launch
- Conducted data analysis on over 9,000 potential clients contact information (addresses, phone numbers, emails) collected through web scraping, establishing a solid foundation for launching targeted commercial operations

LEADERSHIP EXPERIENCE

POLY FINANCES — **Montreal, QC**
Software Developer — Jan 2025 - May 2025
- Collaborated on investment strategies as part of a student-run investment fund, conducting technical analysis and market research, presenting investment recommendations to expert committees for portfolio management decisions
- Developed and maintained a portfolio visualization application and job board platform (FinXplore) for the school's investment fund managing $100,000+ in equity assets, using Python and React

DATA RANK — **Montreal, QC**
CTO — Dec 2024 - Present
- Co-founded an AI technology startup developing an advanced data ranking platform that leverages machine learning to evaluate and score data quality across multiple industries
- Leading the development of the platform's first phase, architecting a machine learning pipeline using decision trees to implement an adaptive questionnaire system for corporate data evaluation

EDUCATION

City University of Hong Kong — **Hong Kong, HK**
Exchange Program — Sep 2025 - Dec 2025
- Relevant coursework: Mathematic in Finance, Derivates & Risk Management

Polytechnique Montreal — **Montreal, QC**
Bachelor Degree in Mechanical Engineering — Graduation Date: Dec 2025
- Relevant coursework: Probability & Statistics, Differential equations, Numerical modeling

PROJECT EXPERIENCE

Production Energy Model (Python) — **Montreal, QC**
Sep 2024 - May 2025
- Developed an energy production forecasting model for Hydro-Quebec using Python and PyPSA library, simulating electricity generation across 4 energy sources with 500,000+ hourly data points to predict optimal production across Quebec's power network
- Engineered a genetic algorithm optimization system to minimize production costs and CO_2 emissions while maximizing grid efficiency, processing data from 100+ infrastructure points

Options Pricing Models Web Application (Python) — **Montreal, QC**
Jul 2024 - Oct 2024
- Architected a 4-model options pricing application with Python including Black-Scholes, Monte Carlo (10,000 simulations), Binomial, and neural networks models using TensorFlow
- Implemented visualization tools with Plotly including P&L heatmaps and sensitivity analysis graphs for Greeks and Options

Metaheuristic Optimization Algorithm for Machine Learning (C++) — **Montreal, QC**
Jan 2024 - May 2024
- Built an optimization algorithm with C++ using a Differential Evolution (DE) model to train a neural network across high-dimensional spaces (8,000 to 48,000 parameters), achieving 93% classification accuracy on MNIST database
- Benchmarked DE model against self-implemented metaheuristic algorithms (PSO) on high-dimensional test functions (Ackley, Rastrigin), demonstrating superior computational efficiency with 40% fewer cost function evaluation

SKILLS & INTERESTS

Skills: Python, C++, JavaScript, Matlab, R, SQL
Certificates: *Machine Learning* (Stanford University), *Financial Engineering & Risk Management* (Columbia University)