Hamza Attarwala

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EDUCATION

Doctor of Philosophy in Computer Engineering — Montréal, QC
Polytechnique Montréal — *Jan 2026 - Dec 2029*

Master of Science in Applied Modeling and Quantitative Methods — Peterborough, ON
Trent University — *Sept 2023 - Aug 2025*

Bachelor of Science in Computer Science — Peterborough, ON
Trent University — *Sept 2019 - Sept 2023*

SKILLS

- **Languages**: Java, Python, Javascript, C, SQL
- **Technologies**: AWS, React, Django, NestJS, Linux, Tensorflow, PyTorch, Sci-kit Learn

WORK EXPERIENCE

Backend Developer — Remote
EVDrop - https://evdroptech.ca/ — *Feb 2025 - Present*

- **Reservation System**: Developed an EV charger reservation platform (Django, Clojure, OCPP), cutting driver wait times via advance bookings; earned 91% positive feedback pre-launch.
- **Notifications**: Designed and deployed an automated email notification system with Django and AWS SES, ensuring 100% delivery success for 81 reservation reminders sent over 10 days, improving user engagement.
- **Feedback System**: Developed an EV charger feedback module (Django, PostgreSQL, AWS S3), enabling peer reviews and improving user decision-making; integrated with the EV reservation platform.
- **Data Analytic Dashboard**: Built a Django dashboard to unify EV charger metrics, enabling operators to save hours by eliminating manual data collection.

Software Developer — Remote
EasyFits - https://easyfits.ca/ — *May 2023 - Feb 2025*

- **Virtual Try-On Platform**: Led development of a virtual try-on platform enabling personalized avatars, enhancing user engagement and experience.
- **Backend API Optimization**: Created and optimized a NestJS backend API with PostgreSQL via Prisma ORM, cutting query time from 200ms to under 100ms, significantly improving data retrieval.
- **Frontend Development**: Built modern web and mobile applications using React and React Native, integrating D3.js for advanced data visualization to improve UX.
- **CI/CD Automation**: Automated CI/CD pipelines through Docker containerization and deployment to cPanel, accelerating release cycles and improving reliability.
- **Cloud Deployment for 3D Avatar**: Deployed Blender-based Python avatar modification service on AWS S3 and EC2, enabling scalable and accessible 3D customization.
- **Team Leadership and Mentoring**: Led onboarding sessions and mentored interns and co-op students, fostering knowledge sharing and improving team productivity.

Undergraduate/Graduate Teaching Assistant — Peterborough, ON
Trent University — *Jan 2021 – May 2025*

- **Student Support and Tutoring**: Assisted 30+ students with lab assignments and 75% of coursework in Python, Java, HTML, and CSS, improving understanding and performance.
- **Instruction and Evaluation**: Delivered coding tutorials and lectures to 90+ students, teaching Linux command line and GitHub workflows, and evaluated student submissions for functionality and correctness.

PUBLICATIONS

- **A Two-Stage Hybrid Deep Learning Framework With Reinforce-Learned Temporal Dilated Convolutions for Predicting Vehicle Left-Turn Speed at Pedestrian Crossings - [Link](#)**
  H. Attarwala

PROJECTS

- **CourseRec ([Video Demo](#))**: Built an AI-powered course recommender chatbot to help students navigate 50+ course options by applying RAG and CoT reasoning, resulting in accurate, context-aware, and explainable recommendations aligned with their profiles and goals.
- **Credit Card Fraud Detection System**: Developed a full-stack web application for credit card fraud detection using XGBoost and AWS services (SageMaker, Lambda, DynamoDB, S3, Amplify), achieving 98.01% accuracy.
- **PathOCL**: Implemented a path-based prompt augmentation tool leveraging open-source LLMs to automatically generate Object Constraint Language (OCL) constraints from natural language specifications, integrating linguistic processing (spaCy), similarity ranking, and UML context extraction for accurate, and context-aware generation.