Xristopher Aliferis

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EDUCATION

University of Western Ontario   London, ON
Bachelor of Engineering Science in Software Engineering   *Sept. 2022 – Apr. 2026*

- **Relevant Coursework:** Theoretical Foundations of Software Engineering (96 %, avg 80), Linear Algebra & Numerical Analysis (87 %, avg 71), Applied Math for Engineers II (84 %, avg 71), Algorithms & Data Structures (92 %, avg 73), Microprocessors (100 %, avg 77), Introduction to Electrical Engineering (92 %, avg 76)

AWARDS

INFORMS RAS Problem Solving Competition – 1st Place Winner   2025
INFORMS Railway Applications Section

- *Relevant Paper:* Data Processing and Model Benchmarking for Predictive Maintenance

NSERC Undergraduate Student Research Award   2025
Natural Sciences and Engineering Research Council of Canada & University of Western Ontario

Dean's List   2023, 2024, 2025
University of Western Ontario

TECHNICAL SKILLS

Languages: C++, Python, Java, C#, JavaScript
Machine Learning: Supervised and unsupervised learning, model benchmarking, feature engineering, cross-validation
Frameworks & Libraries: TensorFlow, PyTorch, Keras, scikit-learn, XGBoost, LightGBM, FastAPI, Flask, Node.js, React
Data & Signal Processing: NumPy, Pandas, SciPy, PyWavelets, FFmpeg, Matplotlib, Seaborn
Big Data & Cloud Platforms: Apache Spark, Databricks, Google Cloud Platform, AWS, SQL, Supabase
Optimization & Experimentation: Optuna, GridSearchCV, SHAP analyses
Tools & Systems: Git, Overleaf, LaTeX, Scrcpy, Alexa Developer Console

RESEARCH

Data Processing and Model Benchmarking for Predictive Maintenance   Pending submission, 2025
X. Aliferis; Y. Tang; F. Heidari; T. Wei – Western University

- Designed an end-to-end modular PdM pipeline from raw railway data to 5-class failure prediction.
- Implemented heavy preprocessing that improved detector SNR by up to +16.7 dB and reduced XGBoost log loss by over 50%; benchmarked multiple ML models to identify optimal performance.

EXPERIENCE

NSERC Undergraduate Research Student   May 2025 – Present
University of Western Ontario – MoTech Group   *London, ON*

- Worked with the MoTech group to apply Machine Learning techniques to solve the 2025 INFORMS RAS problem solving competition

Software Developer Intern   May 2024 – Aug 2024
1VALET   *Ottawa, ON*

- Developed a 1VALET Alexa Skill for two-way communication with 1VALET's API, enabling personalized information retrieval for users, leading to an increase in user engagement.
- Implemented real-time notification system using C#/.NET, improving user response time and enhancing user convenience significantly.

Software Engineering Intern   May 2023 – Aug 2023
Med-Eng   *Ottawa, ON*

- Built a C# Windows application with Scrcpy and ADB to streamline device setup, stabilize video connection, and minimize failures.
- Developed a companion Android app in Kotlin for live audio transfer, enabling reliable audio–video sync and improving usability for recording workflows.