Joe Youssouf

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Profile of Skills

Programming Languages: Python, SQL, PySpark, Bash, HTML/CSS, MATLAB & Simulink
Frameworks/Packages: Pandas, NumPy, Matplotlib, Scikit-learn, Django/DRF, Flask
Data Engineering/MLOps Tools: PostgreSQL, Dagster, dbt, MLFlow, DigitalOcean, Iceberg, Timescale
Dev Environments and Tools: Jupyter (Classic and Lab), VS Code, direnv, Redis, Docker
Other: Git, GitHub, Linux (Ubuntu, WSL2), MS Office Suite, Arduino/RPi

Industry Experience

Intermediate Data Scientist **Sept 2020 - Present**
Preteckt Inc. *Hamilton, Ontario*

Company Objective: Leverage years of time series vehicle data and machine learning models to deliver *human-in-the-loop* predictive maintenance alerts and repair plans for thousands of heavy-duty vehicles across North America.

My Contributions:

- Successfully and independently managed external relationships, performing consulting data science advising and analysis for larger partner companies, setting and meeting contracted project milestones along the way
- Independently designed and built multiple data ingest pipelines using Dagster to capture raw daily API data, perform transformations, and load into Apache Iceberg
- Developed a systematic exploratory data analysis (EDA) internal standard report for newer data scientists on our team, and personally performed thorough analyses for many disparate data sources using Pandas and SQL
- Contributed to preprocessing and training methods for our clustering anomaly detection models and deployed trained models to our MLFlow production database
- Proud to have mentored 3 co-op students and 2 entry-level data analysts and scientists as well as refactoring and maintaining our official data science onboarding and internal tooling repository

Education

B.A.Sc. - Honours Electrical Engineering w/ Co-op **Sept 2017 - Aug 2021**
University of Windsor *Windsor, Ontario*

- Cumulative GPA: 4.0/4.0
- Minor in Mathematics and Statistics
- Dean's Honour Roll - 2017-2021

Extra-Curricular Experience

WinSAT - Space & Aeronautics Team **Sept 2018 - Feb 2020**
University of Windsor *Windsor, Ontario*

- Competed in the Canadian Satellite Design Challenge (CSDC) against 15+ top Canadian university teams to build a 3U Cube Satellite for Low Earth Orbit with the capability of transmitting photos of the Earth for a year-long mission
- Elected as leader for the Electrical Power Systems (EPS) and of the Command & Data Handling subsystem teams as a result of my dedication to the team, overtime hours, and strong communication skills
- Led our division to complete a series of solar panel designs, flight simulations, and oscilloscope testing documents with respect to the project Gantt Chart deadlines
- WinSAT achieved 1st place in the CSDC-5 Critical Design Review (CDR)!

University of Windsor's EPICentre Makerspace **Aug 2018 - Mar 2021**
University of Windsor *Windsor, Ontario*

- Designed, programmed, and assembled a 3D printed and laser-cut computer numerical control (CNC) machine with a small group of engineering students.
- Wrote an Arduino module and Mach3, a CNC controller software, to control independent x, y, and z motors in order to move a robotic drilling arm to specific locations
- Presented our finished product at the 2019 Windsor-Essex Mini Maker Faire along with over 30 other local entrepreneurs, inventors, and creators

Adjacent Work Experience

Electrical Engineering Intern **Jan 2020 - May 2020**
Windsor-Detroit Bridge Authority *Windsor, Ontario*

- Prepared CAD models, produced data analysis reports, and shadowed the lead electrical engineer to prepare for the construction of the Gordie Howe International Bridge
- Modelled toll booth and lane assets for the development of a "digital twin" model of the bridge
- Independently conducted a Population Density and Local Urban Growth study to generate metrics for projected vehicle and electrical load
- Presented my models and analysis reports to subcontractors and government stakeholders during technical work group meetings in a consultant engineering environment, incorporating their feedback throughout

Electrical Engineering Intern **Apr 2019 - Sept 2019**
ENWIN Utilities Ltd. *Windsor, Ontario*

- Programmed and facilitated software updates for an industry specific pole tension analysis software, created support documentation to highlight my changes, and held presentations to train the entire engineering technician department
- Developed sweeping improvements to citywide power metric reports, including monthly power usage data trackers that were quickly adopted at all levels of the company
- Consistently acknowledged by my leaders for the "friendly and interpersonal" team environment I helped to create!

Assistant Manager **Mar 2016 - Aug 2021**
Tim Hortons *Windsor, Ontario*

- Promoted to a supervisor and assistant manager position within 3 months and 1.5 years respectively as a result of my committed and consistent professional work ethic and initiative
- Managed a diverse team of employees to accomplish top-of-the-line customer service in a fast-paced and challenging environment
- Presented bold and fresh ideas to local franchisees and owners with respect to work-flow management and team member efficiency that resulted in improved productivity and implementation across all local locations
- Organized and led multiple successful community-based fundraising and charity events such as our annual "Riverside Night Run for Mental Health Support" and "Tim Hortons Camp Day"

Awards and Conference Recognition

Transit Research Board - Transit Data Challenge (Pending) **Jan 2024**
Applied for the 2024 transit data challenge, pitching Preteckt's solution in Washington, D.C among 5 other industry finalists

CUTA Conference Young Leaders Summit **Nov 2023**
Selected as a delegate among hundreds of applicants to represent and pitch Preteckt among new and experienced Transit Leaders across North America

Google Developers Group **Nov 2022 & 2023**
Presented yearly to a crowd of 50-100 local developers and students about building a data-driven startup company as well as presenting a demo on taking raw data and transforming it into a clustering model

Professional Engineers of Ontario **Foundation for Education Scholarship** **Apr 2019**
Awarded to engineering students who have demonstrated an equal combination of high academic achievement and leadership through participation in professional affairs and extra-curricular activities

Windsor-Essex Chapter - Professional Engineers of Ontario **Bursary** **Mar 2019**
Awarded to engineering students who have demonstrated exceptional academic achievement

Tim Hortons Young Excellence Scholarship **2017, 2018 & 2019**
Awarded to exceptional students across Canada who have exceeded expectations in their academic studies and who have actively contributed to improving their community through Tim Hortons volunteer events

Electrozad Foundation Scholarship **Dec 2018**
Awarded to electrical engineering students in their second year who have achieved a minimum cumulative average grade of 95%

Dean's Renewable Entrance Scholarship **Sept 2017 - Aug 2021**
Awarded and renewed every term to students who maintain a cumulative average of 90% or greater in their coursework. A grade of 75% or lower in any single course would cancel the renewal of this award.

JANLA Scholarship Award **June 2017**
Awarded to a graduating student who has achieved a minimum cumulative average grade of 85% and who has demonstrated passion for their chosen post-secondary field of study through extra-curricular activities

Relevant Coursework and Professional Development

Independent Coursework:

- Machine Learning Specialization (Andrew Ng)
- Forecasting Principles and Practice
- Ubuntu CLI
- Django and DRF Tutorial
- StatQuest's Machine Learning Playlist
- Designing Data Intensive Applications
- SQLBolt
- Makefile Tutorial
- Flask Interactive Tutorial

Personal Conference Attendance:

- Open Data Science Conference 2023
- KDD 2022
- PyData 2020 and 2021 (Virtually)
- GDG Windsor-Essex 2022, 2023
- Emerging Tech in Automation 2022

University of Windsor:

- [MATH-126] Linear Algebra (96%)
- [MATH-140] Differential Calculus (94%)
- [MATH-141] Integral Calculus (92%)
- [MATH-215] Vector Calculus (92%)
- [MATH-216] Differential Equations (95%)
- [GE-85-225] Statistical Treatment of Experimental Data (92%)
- [STAT-2920] Probability and Statistical Inference (97%)
- [ELEC-2240] Signals and Systems (94%)
- [ELEC-2280] EM Fields - Physics IV (99%)
- [ELEC-2280] EM Waves - Physics V (98%)
- [COMP-2540] Data Structs & Algorithms (98%)
- [GENG-3130] Eng Economics (98%)
- [ELEC-4570] Digital Signal Processing (85%)
- [ELEC-4490] Sensor & Vision Systems (89%)