

# Michael Furlano

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## Education

### University of Toronto

*Bachelor of Applied Science in Industrial Engineering*

Toronto, ON

Expected Graduation, April 2026

- **Minor:** Artificial Intelligence and Engineering Business
- **Relevant Coursework:** Operations Research, Data Science, Data Structures and Algorithms, Data Modelling, Engineering Economics, Systems Modelling and Simulation, Machine Learning, Artificial Intelligence, Operations and Supply Chain Management

## Work Experience

### Forest Hill Construction and Landscaping

Bolton, ON

*Construction and Landscaping Operations Intern*

April 2023- August 2024

- Increased project efficiency by ensuring timely delivery of tools and materials, contributing to a **10%** improvement in project timelines.
- Successfully assisted in preparing quotes for homeowners, leading to a **15%** increase in homeowner project approvals.
- Reduced inventory tracking errors by **20%** through the implementation of more efficient tracking systems.

### Noble Corporation

Concord, ON

*Credit Support*

April 2022 - August 2022

- Reconciled customer accounts with **98%** accuracy, reducing discrepancies in payment applications by **25%**.
- Streamlined Excel account allocations, resulting in a **30%** reduction in processing time for the accounts payable team.

### UTSCIM | University of Toronto Supply Chain and Intelligence Management

Toronto, ON

*Project Manager*

September 2024- Present

- Led the planning and execution of a machine learning project, focusing on applying AI to solve supply chain challenges and organising workshops.
- Provided technical expertise in machine learning and coding, actively contributing to problem-solving, development, and timely completion of projects.

## Projects and Leadership

### Project Manager CRSD Bracelet Design | *University of Toronto, Engineering Strategies & Practices II*

- Led a team of 5 to design and prototype a CRSD data-tracking device using C++ and basic manufacturing skills, resulting in the successful testing of the solution.
- Managed client communication, project meetings, and task assignments, ensuring alignment with design requirements and project goals, achieving **90% of client satisfaction** on the prototype's performance.

### Advanced Solutions to the Traveling Salesman Problem (TSP) Project | *Java, OOP, Graph Algorithms*

- Developed a scalable solution for the Travelling Salesman Problem (TSP) in Java, optimizing processing time by **40%** through advanced data modeling and graph algorithms.
- Implemented and evaluated algorithms such as greedy, nearest neighbor, integer linear programming, and neural networks, achieving an **optimality gap of less than 5%** and reducing the convergence rate by **30%** in comparison to baseline algorithms.

### Epidemic Modelling Project | *Mathematical Models, R, SAS, Statistical Testing*

- Created a COVID-19 epidemic model using the SIR framework to analyze infection trajectories in New York and Toronto, achieving a **predictive accuracy of 85%** in forecasting infection and recovery trends.
- Calculated transmission and recovery rates and reproductive numbers using R and SAS, incorporating a waning immunity factor to model reinfections, leading to actionable insights on the impact of public health measures.

### Statistical Analysis Project of Music's Impact on Short-Term Memory | *R, Statistical Testing*

- Conducted an experiment with 50 participants to evaluate the effect of classical music on memory recall versus silence, testing the Mozart Effect.
- Analyzed data using R, conducting independent t-tests to determine the statistical significance of memory performance differences between groups, achieving **statistical significance ( $p < 0.05$ )**, supporting the hypothesis of enhanced recall with music.

## Skills and Certifications

**Programming and Tools :** Python, Java, C++, MATLAB, AMPL, R, SQL, SAS, Gurobi, CPLEX, Microsoft Excel, AutoCAD

**Certification:** TensorFlow Developer Certificate - *Received December 2023*