# YIZHOU (JOSEPH) MI

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Engineering Science, University of Toronto

## EDUCATION
September 2022 – Present

University of Toronto Bachelor of Applied Science(BASc) in Engineering Science + PEY Co-op

3.90 Accumulative GPA

- Notable courses include Structures and Materials, Fundamentals in Electric Circuits, Computer Algorithms and Data Structures, and Molecules and Materials
- UTFR DV Mapping Team, working to develop a driverless vehicle simulation software using Unreal Engine 5's source code (concluding with research)
- Technical Volunteer for the Engineering Science Educational Conference, assisting with the annual speaker-student networking event
- Events Executive in UofT's Quantitative Finance Lab, tasked with sending out biweekly newsletters about data science, investments, and finance-related events. Also contribute to the planning of Quant Lab's annual investment case competition.

Short Course: UofT Data Science Mini Course

- Focused on utilizing R, a statistical programming language, to analyze specific data sets and compute trend interpretations.

## EXPERIENCE

### Automotive Service Technician

Active Green+Ross Tire & Automotive Centre @ 1530 Midland Ave · June 2022 - August 2023

- Familiarized with the braking mechanisms, transmission systems, engines, and air conditioning systems in a range of automotive vehicles, understanding the basic process of industrialized automotive services.
- Operated industry-standard machinery and hoists to assist in adjustment services.
- Became experienced with casual oil changes, ensuring quick and clean processes.
- Utilized alignment lasers, air guns, hydraulic tools, and other hardware tools for more problem-specific procedures, such as post-accident repairs.

### Electrical and Mechanical Engineer

Shell Super Mileage @ University of Toronto · September 2023 - Present

- Conducted BMS integration into current wheel circuit, beginning with research through similar projects, the designing of new component arrangements, and finally product purchasing.
- Explored built-in fuel cell shutoff mechanisms
  - Created emergency shutoff circuit with external, driver, and automatic kill switches
  - Researched suitable relays, fuses, and solenoids for purchasing
- 3D Modelled external design of the current fuel cell measurement system in SolidWorks and Fusion360, creating seating for heat sinks and resistors
- Applied foam, plastic coating, and carbon fiber layout to aero-body; includes heavy sanding.

## SKILLS

- CAD/Design: SOLIDWORKS, Autodesk Fusion 360, SketchUp, Revit
- Programming: CSS, JavaScript, Vue, Python, Java, R, MATLAB, C, ROS2, C++, Docker
- Hands-on Manufacturing: Soldering, 3D Printing, Woodworking; Utilizing Milling Machines, Lathes, and Drill Presses
- Electronic Design and Hardware: Altium, Kicad
- Communication and Computation: Excel Spreadsheets, Git/Github, Microsoft Teams, Photoshop, Powerpoint

## PROJECTS

### Stress Analysis of Matboard Bridge

Skills: Python, Matpotlib · November 2023

- Developed Python script utilizing the Matplotlib library to analyze internal stresses in a bridge
- Implemented advanced algorithms to simulate stress distribution across the bridge, allowing for a comprehensive assessment of failing load, method of failure, and direction of design improvements
- Designed an intuitive and visually informative output interface, leveraging Matplotlib's capabilities to generate clear stress distribution plots
- Utilized limited materials and concrete glue to complete construction

## ADDITIONAL INVOLVEMENTS

- Movie Data Retrieval Website Utilizing TMDB's API: Employing Vue Framework via Vue Router
- Mentee, ACE Washington (Dec 2022 - May 2023)
- Firmware Team Member, UTFR(Formula Racing)
- Part-Time Python and Math Tutor, Titan Tutors (Oct 2023 - Present)

## AWARDS

- Ranked first within school, Waterloo CSMC 2023
- John Terrence Flanagan Scholarship, Agincourt Collegiate Institute 2023
- UofT Allan Wai Chiu Mok And Isa Po Po Gok Scholarships
- $14k in scholarships and grants