ALEX OLUWASINA OlOWOOKERE

Contact Info: 437-772-7975 | alexander.olowookere@mail.utoronto.ca | oluwasinaalex@gmail.com | GitHub | LinkedIn

EDUCATION

Bachelor of Applied Science — **University of Toronto** — *Toronto, ON, CA* **(09/2020 - 04/2025)**

- Major in Mechanical/Mechatronics Engineering with Minor In Robotics and Artificial Intelligence
- Recipient of US Steel Undergraduate Scholarship, John And Lena Demma Scholars Award, See UofT Award
- **Undergraduate Coursework:** Data Structures & Algorithms, Software Design, Operating Systems, Computer Organization, Deep Learning Fundamentals, Distributed Systems, Circuit Design, Analog & Digital Electronics, Quality Control, Kinematics & Dynamics of Machines

SKILLS

- CAD (AutoCAD, Solidworks) | Finite Element Analysis | Ansys | Prototyping | 3D Printing | C# | .NET | Java | JavaScript | Python | C++ | C |
- JUnit | OOP | Unity 2D | HTML | CSS | SQL | R | MATLAB | NumPy | PyTorch Tensor Flow | Frontend | Backend | Node

EXPERIENCE

Software Engineer Intern — **First National LP** — *Toronto, ON, CA* **(05/2023 - 09/2023)**

- Implemented document validation features on the Back-End, improving document accuracy by 90% via a rules engine for client-side validation using C#, .NET Core & XUnit, minimizing unnecessary server communication resulting in 4x faster request processing speeds.
- Achieved a 100% enhancement in the responsiveness of FN's internal Commercial Mortgage web application through the integration of Asynchronous JavaScript Methods and Promises on the front-end, streamlining user experience.
- Utilized SQL stored procedures to generate deal specific documents using SSRS templates, centralized and optimized database operations, resulting in a 4x reduction in network traffic and a 3x improvement in application loading and document generation times.

DESIGN TEAMS

Firmware Engineer — **University of Toronto Formula Racing Team** — *Toronto, ON, CA* **(01/2022 - Present)**

- Developed telemetry systems (**C++**) and Programmed electronic hardware devices, including remote controls, to monitor and analyze car performance via ensuring an accuracy of 95.6%
- Implemented critical safety measures, such as a battery overheating failsafe, to report data to the Battery Management System when temperatures approached the limit of 60°C, ensuring optimal performance and safety.
- Optimized and maintained software applications within the vehicle, enhancing power unit performance, fuel efficiency, and energy recovery which led to a 20% increase in efficiency.

Software Engineer & PM — **Landscape Artists Kanban Developers** — *Toronto, ON, CA* **(05/2023 - 08/2023)**

- Managed an agile team of 6 students to develop a cross-platform Productivity Kanban Desktop App development (Java), ensuring project management efficiency with a Test Driven Development approach using JUnit 5.
- Introduced temporary caching to provide direct access to data, increasing loading speeds by 10x and optimized database searching and retrieval by 100% via a modified implementation of the Binary Search algorithm.
- Accomplished 200% performance boost by adhering to Clean Architecture & SOLID principles such as loose coupling and encapsulation. Designed JavaFX-based UI with features such as Drag and Drop, multiple project support and shared projects.

Mechanical Designer(Brakes & Blades) — **UT Wind** — *Toronto, ON, CA* **(09/2021 - 04/2022)**

- Spearheaded the creation of 3D models using SolidWorks and AutoCAD, leading to a 15% reduction in design iteration time. Conducted stress analysis through ANSYS simulations, optimizing designs and achieving a 25% increase in component durability.
- Categorically selected materials, resulting in a 30% enhancement in component reliability. Executed stress, strain, and fracture testing, ensuring designs met safety criteria and reducing failure rates by 20%.
- Ensured alignment with industry standards, resulting in zero regulatory violations. Additionally, implemented meticulous tolerancing measures during machining with allowances of ±0.0125mm to ensure precision and quality in the final product.

PROJECTS

- **Music Genre Classification Project - (Python, HTML, CSS, JavaScript):** developed a Music Genre Classification machine learning model utilizing a Pre-Trained CNN model, specifically AlexNet in PyTorch. Enhanced model performance by applying Stochastic Gradient Descent, reducing overfitting by 50%, and incorporated Dropout layers, resulting in a 30% decrease in vanishing gradient instances. The project involved custom Python scripts to collect and preprocess training data from YouTube and Spotify and predicted with a 94% test accuracy. **(01/2023 - 04/2023)**
- **CNC Pick and Place Machine Design Project (Solidworks):** Designed a CNC Pick and Place Machine project using the Cartesian framework using Solidworks. This approach ensured precise movement along the X, Y, and Z axes, optimizing accuracy and efficiency. Selecting gear ratios, high-torque motors, and advanced bearing choices, I achieved a 20% increase in efficiency, a 25% boost in pick and place speeds, and a 30% extension in estimated operational lifespan. Refactored designs for simpler manufacturing **(09/2022 - 12/2022)**

COMMUNITY

- **Finance Director — National Society of Black Engineers (NSBE):** Lead a team of 4 students in an Agile-like workflow for effective task handling and record keeping. Organized NSBEHacks 2022 & 2023 Hackathons, securing $22,000 in funding (20% increase from previous year). Strengthening organizational influence via networking with industry professionals & corporate sponsors. **(09/2021 - Present)**
- **Residence Advisor/Don — Chestnut Residence, University of Toronto:** Oversaw community development, social/educational programs, and crisis intervention for 1000 students, ensuring their well-being, fostering a supportive living environment. **(08/2022 - Present)**