# BENJAMIN MAH

Toronto, Ontario

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## EDUCATION

**University of Toronto** — **September 2021 – April 2025**

*BASc in Machine Intelligence Engineering, Minor in Business*

Dean's Honour List for 2021, 2022, and 2023

Relevant Courses: Introduction to Machine Learning, Foundations of Computing, Computer Algorithms and Data Structures, Digital and Computer Systems, Probability and Statistics, Matrix Algebra and Optimization, Ordinary Differential Equations

## EXPERIENCE

**Data Analyst** — **September 2023 – Present**
*Cohere* — *Toronto, Ontario*

- Audited machine learning data, rectified errors, boosting accuracy by 15% while optimizing data processing.
- Collaborated with cross-functional teams, including data engineers, to ensure data accuracy, completeness, and consistency, achieving a 98% accuracy rate and facilitating LLM model refinement and reliability.

**Machine Learning Engineer Intern** — **May 2023 – August 2023**
*Royal Bank of Canada (RBC)* — *Toronto, Ontario*

- Worked within the Generative AI team within RBC's Technology and Operations Innovation Labs.
- Developed a machine learning application using semantic search, parallel processing, and prompting techniques to parse, chunk, embed, match, and respond to user questions on financial libraries in both IR and EQA.
- Used Python, LangChain, Qdrant, Amazon S3, and OpenAI models to boost accuracy and efficiency by 67%.

**Autonomous Aircraft Software Engineer** — **September 2022 – April 2023**
*University of Toronto Aerospace Team* — *Toronto, Ontario*

- Responsible for developing and constructing an electric radio-controlled aircraft, an autonomous landing aircraft, and a payload ground rover for the SAE International Aerospace Competition in Texas.
- Programmed a Python script paired with a MavLink and ROS publication-subscription message system to autonomously land an aircraft on a target, improving success rate by 75% upon jettison.
- Developed search algorithms and optimized flying parameters to be used with LiDAR sensors.

**Co-Founder, CTO** — **March 2022 – April 2023**
*FlipDoor* — *Toronto, Ontario*

- Co-Founder and CTO of FlipDoor, a startup focused on implementing a mobile application using AI algorithms to improve pairing with landlords and tenants through the UofT Hatchery, a competitive startup incubator.
- Principal software engineer using MERN stack and data wrangling to build Tinder-like machine learning algorithm for the rental market, increasing client satisfaction rate by 55% from conducted surveys.
- Created Figma mockups, conducted market research, and presented business pitches to investors with a projected yearly revenue of $100,000 nationwide and awarded with $10,000 in funding.

## PROJECTS

**Dubu Chatbot** 🔗 | *Python, JavaScript, HTML, CSS* — **June 2023**

- Designed an intuitive chatbot with user-friendly features, including tone customization and PDF uploads.
- Used ChromaDB, ada-002, and GPT-3.5 for precise semantic search and expert response generation.

**MoodPalette** 🔗 | *Python, JavaScript, HTML, CSS* — **June 2023**

- Created an art therapy application that uses Meta's DeepFace facial recognition system to intelligently determine the user's mood from real-time images, dynamically changing the color palette and art prompt.

**Smart Farming Trailer** 🔗 | *Python* — **January 2023 - May 2023**

- Led the development of a smart farming trailer for rural Ugandan farmers, incorporating code and circuits to collect and process data, offer real-time farming suggestions, and integrate GPS, sensors, LCD displays, and joystick controls using Raspberry Pi Pico-based systems.

## TECHNICAL SKILLS

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| **Languages:** | Python, C, Java, JavaScript, SQL, MATLAB, SystemVerilog, RISC-V/Assembly, HTML/CSS |
| **Frameworks:** | LangChain, Agile, Flask, React.js |
| **Libraries/Tools:** | OpenAI, Gradio, ROS, MAVLink, CAD, Matplotlib, Pandas, Git, NumPy |
| **Interests:** | PC-Building, Taekwondo, Music Production, Record Collecting, Studio Ghibli Films |