KETAN VASUDEVA

Engineering Science Student

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EDUCATION

Engineering Science - Robotics Major - BASc

University of Toronto

📅 September 2018 – Present

- Double Minor in **Business** and **Psychology**
- Dean's List

EXPERIENCE

Full Stack Software Engineer

Manulife - Canadian Architecture

📅 May 2020 – August 2020   📍 Waterloo, Ontario

- Developed and deployed a web tool, using **Agile** methodology, to **automate** security threat analysis reports for Security Architecture. **Increased productivity by 30%** by decreasing average report creation time.
- Developed end-to-end tool using **React**, **Node.js/Express**, and **SQLite**.
- Researched and compiled a data set of over 200 Threats, Assets, and Controls relevant to Security Architecture to help automate reporting process.

Space Systems Team Member

University of Toronto Aerospace Team (UTAT)

📅 March 2019 – Present   📍 Toronto, Ontario

- Working towards deploying a satellite **by 2022** to measure **Anthropogenic CO2** levels across the GTA through hyperspectral imaging.
- **Firmware:** creating the code base (in **C** and **C++**) for the satellite, including implementing features such as **SPI, UART, RS-485, CAN, I2C, SD Cards, SDRAM, and flash memory**.
- **Payload-Electronics:** selecting and creating hardware such as MCUs, optical sensors, and memory selection. Creating **PCBs** using **Altium**.
- **Systems Engineering (SE):** working to streamline team processes and protocols. Successfully deployed **Confluence** team-wide, increasing documentation visibility by 100%.
- **Inclusion (Chair):** created a space within UTAT to discuss and implement **Equity, Diversity, and Inclusion** goals both internally and in our broader engineering community.

Praxis 3 Research Assistant

University of Toronto

📅 September 2020 – Present   📍 Toronto, Ontario

- Working with the faculty to build a fresh and innovative 2nd Year Engineering Science design course focusing on global community collaboration.
- Building international relationships and partnerships, as well as advising and researching potential course projects.

Project Management Office Associate - Student

Tangerine

📅 April 2019 – August 2019   📍 Toronto, Ontario

- Helped manage and organize over 30 active development projects.
- Aided in development and deployment of projects such as a **Chatbot**, a **Deep Learning** platform, and a new **line of credit**.

TECHNICAL SKILLS

- **Web:** React, Node, Express, HTML, JS
- **Embedded & Robotic Systems:** ROS, C, C++, ARM, Verilog, Arduino, Altium
- **Other:** Python, Java, SQLite, MySQL, Matlab

PERSONAL SKILLS

- **French** and **English** fluency
- Agile Methodology, PCB Design, Leadership, Communication, Flexibility, Composure

PERSONAL PROJECTS

NASA SpaceApps 2020 Hackathon - Toronto and Canada CSA Winner

- Created an educational sandbox tool to simulate the challenges of communicating with people on Mars using **NASA/CSA** data sets, **React.js**, **Node.js/Express.js**, and **Python**.

NewHacks Hackathon

- Built an auto-regulation system for diabetic pump injections using **neural networks** and **machine learning** in **Tensorflow**.

Engineers Without Borders Canada (EWB) - Policy and Advocacy Team

- Met with Members of Parliament in order to advocate for the 2030 EWB's sustainable development goals.

UTDL Designathon

- Designed, prototyped, built, and tested a pin-locked fully-integrated safety box to prevent home delivery package thefts using **Arduino**, **CAD**, and various **motors**.

ACHIEVEMENTS

- **University of Toronto Scholar** and **AIA Canada Scholarship** recipient
- UofT Varsity Ultimate Team **Rookie of the Year**
- Received **Manulife Recognized Agilist** Certificate

INTERESTS

- R&D, Robotics, Space Exploration, Programming, AI, Quantum Computing
- Ultimate Frisbee, Tennis, Basketball, Soccer
- Advocacy, Reading, Travelling