Vinesh Vivekanand

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Technical Skills

Languages: C/C++, Python, HTML/CSS, Robot C, Arduino
Libraries/Frameworks: OpenCV, PyAutoGUI, Firebase, Altiris
Mechanical Skills: Solidworks, AutoCAD, Shapr3D, Soldering, Circuit Design, GD&T

Experience

PC LAN Technician and IT Support Intern — Jun. 2022 – Sept 2022

Express Scripts Inc. — *Mississauga, ON.*

- Wrote automated **Shell/bash scripts** using **Altiris** that remotely installed software packages to multiple computers simultaneously and improved laptop imaging efficiency by **75%**
- Setup **65** laptops and **12** PCs using parallel imaging drives that enabled project rollout 2 weeks ahead of schedule.
- Successfully completed **70+** technology-related tickets to fix computer hardware problems, push software to users and resolve Windows application issues.

Web Developer and UX/UI Graphics Design Intern — Jun. 2021 – Sept. 2021

Trinetra Systems Inc. — *Remote*

- Coded and designed the front-end UI of the company's new collaboration application (LetsHudl) and website with 2 developers using **JS, HTML, and CSS.**
- Modeled and presented 3 alternative layouts, animations and transitions using **Adobe XD's** prototype feature to the company's CEO, partners and the management team.
- Used **Inkspace** and **AdobeXD** to design **30+** SVG icons and **11+** colour schemes for email templates and logo designs.

VEX Robotics Engineering Team Lead — Jun. 2019 – Jun. 2022

John Fraser Secondary School — *Mississauga, ON.*

- Spearheaded the design and build of the **2ft^8 VEX** competition robot to win the **International Innovation Award** and **Design Award** for the most efficient and most unique design, respectively
- Developed multiple iterations of robots for **3** competitive seasons, incorporating Standard, Omni and Holonomic drivetrains, 2 or 4 bar lifts, intake rollers, and projectile launchers.
- Improved the team ranking from **10th** to **80th** percentile after qualifying for Provincial and International competitions.

Projects

Autonomous Chess Bot | *Python, Robot C, OpenCV, PyAutoGUI, Shapr3D* — **Nov. 2022 – Dec. 2022**

- Built an EV3-based robot using **OpenCV** and **PyAutoGUI** to detect and relay human chess moves to Chess.com and determine the best counter-move.
- Constructed an XY gantry system using GT2 timing belts, metal rails and 3D printed parts for a ball bearing system to move magnet-embedded chess pieces in under **3 seconds**
- Developed image and control system calibrations and decreased piece detection errors by **99%** to allow seamless piece capture and movement accuracy to within **±2mm.**

V8 Roomba | *Arduino, C++, Shapr3D* — **Jun. 2022–Present**

- Worked in a team of 6 to develop an autonomous cleaning robot using **3 Arduinos** and common electronic components.
- Constructed a 4-wheel drive prototype that communicated through a **2.4 GHz** radio transceiver with the docking station utilizing **I2C** to control the drive train.
- Applied aerodynamic theory to 3D model and optimize the propeller design to create a strong vacuum and filtration system to trap **85%** of dirt.

Magic Mouse | *OpenCV, Azure Custom Vision, Python, PyAutoGUI* — **Sept. 2021–Oct. 2021**

- Prototyped a **Python** program using **PyAutoGUI** to translate specific hand gestures to move a cursor on the screen.
- Automated image collection process using **OpenCV** to compile **1K+** images of hands for testing and tagging.
- Leveraged **Azure Custom Vision** to detect and classify **750+** images to train and improve the program.

Education

University of Waterloo — Sep. 2022 – Apr. 2027

Candidate for Bachelors of Applied Science in Mechatronics Engineering, GPA: 3.7 — *Waterloo,ON*

Received President's Scholarship of Distinction -$2,000 (95%+ High School Average)