Luis Vazquez

Determined engineer working towards making an impact in the technology field to help improve peoples lives.

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EDUCATION

Robotics Engineering Science
University of Toronto

08/2020 - Present

EngSci

- Relevant courses taken: Calculus 1-3, Fluid Mechanics, Computer algorithms and Data Structures, Digital and Computer Systems, ODE's, Linear Algebra, Circuits Fundamentals, Physics

Advanced Placement (AP) and French Immersion
Sentinel Secondary

09/2015 - 06/2020

PROJECTS

Arduino Remote-Controlled Car (11/2021 - Present)
- Personal project to keep self-learning and growing my engineering skillset outside of classes
- Send signals to control the car using an IR remote which will be translated into instructions by the arduino uno that's on the car
- Two-wheel drive, the back wheels are powered by a stepper motor, and the front wheels, controlled by a single servo motor, change the direction of motion
- Designed using SolidWorks and with the ambitious goal to print all the parts in an FDM 3d-printer including gears, wheels, shafts and the car body

SolidWorks designs, 3D-printing and Joinery (07/2021 - Present)
- Practiced using various SolidWorks features and capabilities to best design various personal projects and their iterations
- Inspired by Japanese wood joinery (Kumiki) when designing I focus on ease of assembly and sturdiness, minimizing the need for support material when printing
- Designed a kumiki-style headphone stand where I reduced the support material needed by ~80% by printing in four parts that join together cohesively
- Designed a rock climbing hangboard that uses wood and 3D-printed parts to join together perfectly to support my weight

Projectile Arm Device (09/2021)
- Using SolidWorks, I designed a device that attaches to your arm to shoot paintballs as part of a competition hosted by Red Line
- Ran simulations on the CAD software to verify the result of the calculations which indicated that the paintball would travel 46m when fired

Mental Health Hackathon Finalist - group of 3 (02/2021)
- Created a Google chrome extension using HTML, JavaScript and CSS with an animated water tracker, a daily word of the day and a formal checklist
- Implemented checklist animations alongside user editing and scrolling abilities

Python Synonym Finder (12/2020)
- Implemented a python based program that finds the synonym of a word with the highest percent accuracy based on the words that are used in the same sentence in a pdf provided by the user

Python computer AI Gomoku (Go) Game (10/2020)
- Implemented a computer AI to play gomoku against the user with a high win rate
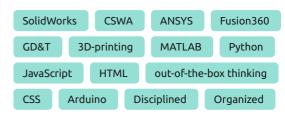
EXPERIENCE

Manufacturing Engineer
Centivizer

05/2021 - 09/2021
Using technology to combat the functional decline in the aging population

Achievements/Tasks

- Designed and implemented consumer products and prototypes in SolidWorks
- Gathered and compiled data by running structural analysis on *cognitive centivizer* designs using FEA on ANSYS
- Conducted market research for the optimal mold-injection manufacturer and heart rate tracker devices to use in our products

SKILLS

SolidWorks CSWA ANSYS Fusion360 GD&T 3D-printing MATLAB Python JavaScript HTML out-of-the-box thinking CSS Arduino Disciplined Organized

ORGANIZATIONS

University of Toronto Hyperloop Team (UTHT) (06/2021 - Present)
In the stability sub-system, I dealt with last-minute design fixes, updates and executed FEA on ANSYS of composite materials, in preparation for the European Hyperloop Week. In addition, I was in charge of creating the part drawings that were then manufactured. Lastly, I have recently moved to the electronics sub-system to grow my knowledge of PCB design and other electronic components

Finn Land Lab Research- Programmer (08/2021 - Present)
As the lab programmer I help the cognitive neuroscience researchers with their data analysis using python and MATLAB

SHAD McGill (06/2019 - 07/2019)
High level STEM and Entrepreneurship program • Worked in a team of eight and developed a business plan and prototype for a real-world design challenge
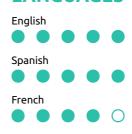
ACCOMPLISHMENTS

Certifies SolidWorks Associate in Mechanical Design - CSWA (11/2021)

Sentinel Secondary Student Physics Award (06/2020)

British Columbia achievement Scholarship (06/2020)

VEX Robotics Awards: Build - Create - Excellence - Tournament Champion (2018 - 2020)

LANGUAGES

English
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Spanish
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French
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INTERESTS

3D-printing Robotics Fluid Mechanics AI Machinery Aerospace Reading Space Exploration Running Hiking Biking Bouldering