ZOLTAN HEGYI

MECHANICAL ENGINEERING STUDENT

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📍 Pointe-Claire

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ABOUT ME

Motivated fourth year mechanical engineering student passionate about innovation and problem-solving. Proficient in engineering software, including AutoCAD and SolidWorks, with hands-on experience in applying theoretical knowledge to real-world projects. Possess effective communication and teamwork skills developed through collaborative projects. I am eager to contribute to innovative projects and thrive in dynamic engineering environments.

EDUCATION

Concordia University

Mechanical Engineering
2020 - Present

Marianopolis College

Pure and Applied Science
2018 - 2020

EXPERIENCE

Electronics TA
Jan 2025 - Present

Concordia

- **Concordia Teaching Excellence Award Nominee** for outstanding student support and instructional quality
- Instructed and mentored 500+ mechanical engineering students in electronics laboratory sessions covering circuit analysis, sensors, and microcontrollers
- Guided students in breadboarding, multimeter/oscilloscope usage, and troubleshooting analog & digital circuits
- Evaluated lab reports and experimental results, providing technical feedback on measurement accuracy and circuit design

Manufacturing Processes TA
May 2024 - Present

Concordia

- Supervised manufacturing laboratory sessions for 60+ mechanical engineering students, demonstrating industrial manufacturing processes and equipment
- Guided students through machining, forming, and material processing experiments, explaining process parameters and manufacturing trade-offs
- Provided technical instruction on manufacturing safety, measurement techniques, and quality control procedures

Chemical Analyst
May 2021 - Dec 2021

Bureau Veritas

Begun as a Lab Technician and promoted to Chemical Analyst after demonstrating superior curiosity and passion to learn.
As an Analyst, I was responsible for performing analyses on samples and complex samples preparation, following Standard Operating Procedures (SOP's) to ensure accuracy and quality of work, ensuring deadlines are met, and following all laboratory safety rules and regulations.

EXPERTISE

SolidWorks   Python   C++

Curious   Passionate   Enthusiastic

Quick Learner   Self Motivated

Critical Thinking   Communication Skills

PERSONAL PROJECTS

DIY Smart Blinds
- A Nema 17 stepper motor driven by a wifi capable arduino raises and lowers the blinds using a custom designed 3D printed planetary gear train

Home Lab Server Cluster
- Custom router OS running a VPN server allowing me to access my home network from anywhere
- Runs multiple docker containers providing various services such as a self hosted cloud storage as well as an AI assisted photo library and a Plex media server.

Plant Soil Moisture Tracking
- Continuously measures the soil moisture of various plants using an Arduino based development board
- Wirelessly logs moisture data on Raspberry Pi server
- Displays a visualization of historical data in a web application hosted on the Pi

CERTIFICATION

DELF/DALF B2 Certification — 2018

Nationals Lifeguard Certification — 2018

First Aid/CPR Certification — 2017

LANGUAGES

English

Native or Bilingual Proficiency

French

Professional Working Proficiency

Hungarian

Native or Bilingual Proficiency