Neal Elharidy

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EDUCATION

The University of British Columbia - SBME Systems and Signals Engineer

PROFESSIONAL SKILLS

- **Python**
- **Matlab**
- **C# & C++**
- **R & R-Studio**
- **HTML & CSS**
- **Javascript**
- **MySQL**
- **Solidworks**
- **Fusion 360**
- **FDM 3D-Printing**
- **PCB Design, Fabrication & Assembly**
- **K-Layout**
- **Lumerical Mode**
- **Micro-Soldering**
- **PyTorch**
- **ANE Transformers**
- **AWS Cloud Practitioner (In-Progress)**
- **Optical Signal Processing**
- **LiDar Model Scanning**
- **Unix / Linux Systems**
- **Github**

PROFESSIONAL EXPERIENCE

Soapstand LLC. - Systems and Assembly Engineer Aug 2022 - Sep 2023
- Improved weekly production from 6 to 10 machines by streamlining the PCB fabrication and testing.
- Configured, verified, and addressed bugs in firmware (C/C++) and provided detailed reports to the development team.
- Performed, logged and automated QC testing for assembled machines following ISO 9001 standards.
- Trained new assembly technicians on processes, documented assembly instructions, and supervised QA.

UBC's Green Joule Design Team - Executive Team Lead - July 2021 - April 2022
- Oversaw, organized wet lab research, production and finances amongst 4 subdivisions totalling 30 members.
- Programmed full monitoring and control system using C++ for controlling gas flow, PIC based temperature control, light intensity and fermentation rate.
- Coordinated with the School of Chemical and Biological Engineering, the School of Botany, and the BIOT design team on multiple collaborative projects including deploying a unified algae/brewing reactor with BIOT.

Growth Subdivision Lead - Sept 2020 - July 2021
- Increased 2021 annual yield of biofuel synthesized by 12% via implementing a modified Folch technique for lipid extraction.
- Decreased cost per litre by 30% by utilizing local cultures growth mediums collected from UBC grounds.
- Developed a method of producing alcohol from fermentation and biofuel in a unified bioreactor that was later deployed with fellow design team BIOT to allow Carbon negative brewing.

Hamad Hospital - Facilities Volunteer - Feb 2021 - June 2021 - Doha, Qatar
- Received vaccine thermal shippers containing 5000 vaccines each, forwarded batches to storage and medical personnel.
- Generated reports regarding medical supplies to be restocked, thermal shippers received, and daily vaccines used.
- Assisted in general administration and system IT issues by debugging SQL data base.

Biz-Hacks - Hackathon Team Engineer - Feb 2020
- Engineered, modelled, in Fusion 360, and later 3D printed scale model of prototype interactive booth for Best Buy.
- Fabricated a prototype and modelled the booth's UI and its accompanying management and end-user apps using Python, HTML, CSS, & Javascript.

Carnegie Mellon University - MindCraft Project Intern - April 2017 - May 2018
- Built and maintained the line tracking robots used by participants using Arduinos programmed in C++ for controllers.
- Programmed cryptography based challenges for participants in Python.
- Counselled and monitored participants throughout the program ensuring the teams maintained cohesion.

CERTIFICATIONS

Privacy and Information Security
Certificate ID: SRS_PRSEC_Oc2020idy13eal9 & SRS_PRSEC2_Oc2020idy13eal9

AWS Cloud Practitioner (In Progress)
Expected completion Date: April 11, 2024

Introduction to Laboratory Safety
Certificate ID: SRS_ILS_Oct2020idy14Nea57

Workplace Hazardous Materials Information System
Certificate ID: SRS_GWHMIS_Oct2020idy14Nea9

PROJECTS

Python - LlaMa-2 7/13B based assistant with integrated API based tools running using apple's ANE Transformers library.

Matlab - 3D dynamically controlled robotic arm simulation with end effector force control.

Matlab - Optical Computer Tomography System which processes raw OCT data and outputs manipulatable 3D volumes of imaged tissue.