

Alexander Hay

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Education

Northwestern University

M.S. Robotics

Evanston, IL

2020

Iowa State University

B.S. Mechanical Engineering

Ames, IA

2014

Skillset

Coding: Python, HTML/CSS/JS, MATLAB, C, Git

Design: Onshape, Solidworks, AutoCAD, Inventor

Experience

Naxos Lab LLC - Montreal, QC

Mar 2022 - Jan 2023

Lead Engineer

- Responsible for design and 3D printing of novel laboratory and educational devices
- Created manufacturing roadmap to scale with business
- Implemented chain of visibility, traceability, and accountability
- Mentored CEO during the business creation process

Universite de Montreal - Montreal, QC

Apr 2021 - Feb 2022

Research Associate

- Rehabilitated NHP for reintroduction into laboratory environment
- Designed, characterized, and documented novel scientific equipment
- Facilitated laboratory activities and procurement
- Synchronized communications, schedules, and automated tasks

Northwestern University - Chicago, IL

Aug 2019 - Dec 2020

Graduate Student

- Development of an MRI-compatible tactile stimulation device
- Built a neural network using gradient descent to generate a motion model for a roomba
- Programmed industrial robot to find, grab, aim, and fire a NERF gun

Pearce Services - Des Moines, IA

Apr 2016 - Aug 2019

Design Engineer

- Facilitated telecom infrastructure plans for major metro ISPs and carriers
- Scope of projects ranged from small businesses to residential communities
- Budgeted construction and labor costs, dispatching engineers on site when necessary

Drive Spotter - Omaha, NE

Jun 2015 - Jan 2016

Product Engineer

- Developed a working prototype construction zone detector using OpenCV
- Conducted prior art research; assisted in writing, editing, and revising patents and proposals
- Traveled frequently, giving demonstrations to investors and securing accounts

Medline Industries - Mundelein, IL

Jan 2015 - May 2015

R&D Material Technician

- Conducted tests evaluating material properties of medical products for manufacturers
- Constructed new testing procedures in compliance with relevant ISO regulations
- Quantified experimental data in the final report of quality assurance investigation

Rehabilitation Institute of Chicago - Chicago, IL

Jun 2014 - Sep 2014

Research Intern

- Worked in a team to develop a novel adaptive wheelchair controller for spinal cord injury patients
- Utilized ML algorithms to optimize sensor data with user ability
- Volunteered for BMES conference