Nathan Mackenzie

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NateMackenzie.com

Education

B.S. Mechanical Engineering — 2015 - Present
University of Maine, Orono
GPA: 3.3

Notable Projects

Handwriting AI

A feed-forward neural network written in C++.Uses a sigmoidal activation function and a back propagation teaching method to train the network to a provided training set.

2-Axis Force Test-Bench

Capstone design project for research purposes.Makes use of two lead screw linear actuators to apply a normal and shear force to prototype force sensors. Stepper motors controlled by an Arduino Mega.

Power Plant Analysis

A MATLAB program which preforms an analysis on a closed Brayton cycle power plant to help determine how to achieve maximum energy and cost efficiency

Work History

Mechanical Assembly Intern — Aug 2018 - Present
Lanco Intergrated, Westbrook Maine

- Follow engineering drawings to manufacture and assemble modules
- Modify engineering drawings and components as necessary
- Assist Mechanical & Electrical Technicians as necessary

Manufacturing Engineer Intern — May 2018 - Aug 2018
Nestlé Waters, Poland Spring

- Write and manage blowmolding preventative maintenance schedules
- Assist with production line modifications and trouble shooting
- Research and implement production line improvements

Undergraduate Research Assistant — Jan 2016 - May 2016
NASA HIAD Research, UMaine Advance Manufacturing Center

- Assist in data collection of ballistics testing on inflatable inner tube materials
- Analyze woven fabric structures
- Construct graphical analysis of experimental data

References

Available Upon Request

Skills

Java

- AWT, Swing, and JFX
- MVC design architecture
- Familiarity with JUnit test suite

C/C++

- Bit Masking
- TCP/IP Sockets
- Multithreading

Visual Basic/.NET

- SerialPort interfacing with Arduino for IO

Linux/UNIX

- Bash
- Arch Linux kernel
- OpenBox/KDE

Git/Github

Javascript

- Bootstrap
- jQuery

HTML

CSS

SQL

Links

NateMackenzie.com