Grattan Rowland IV

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EDUCATION

Michigan State University, East Lansing, MI
Bachelor of Science, Major in Applied and Computational Mathematics December 2020
Minor in Computer Science Engineering

WORK EXPERIENCE

MSU National Superconducting Cyclotron Laboratory & Facility for Rare Isotope Beams, East Lansing, MI
Student Technical Assistant I December 2017 – Present

- Collaborated efficiently with engineers to construct and test software and hardware control systems.
- Built and implemented components for a particle accelerator.
- Fabricated devices to an engineering standard to be capable of withstanding -200 °C in cryogenic chambers or vacuums within gas chambers.
- Demonstrated safety techniques around radioactive waste and hazardous materials. Exhibited practice of 4S safety regulations and lockout/tagout.
- Assembled over 200 separate power supplies, switches, and other mechanisms and electronics for superconducting magnets.
- Designed, developed, and tested covers and enclosures for dangerously high voltage and current applications.

IOvAGE, Brighton, MI
IT Technician October 2015 – August 2016

- Optimized software and hardware to improve performance and output of network and CNC Mills.
- Constructed servers and synthesized multiple networks.
- Configured wiring and software setup of network infrastructure, mapping, and CCTV feeds.
- Visualized and designed layouts for enclosures and infrastructure mappings with CAD.
- Repaired over 100 CNC Mills and their respective computer hardware.

PROJECTS

Personal Project, Hartland, MI
Machine Learning Stock Market Prediction Algorithm October 2020 – Present

- Compiled programs to classify stock market data, flags, and signals to predict outcomes with machine learning.
- Combined gradient boosted classifiers for long range analysis with naïve bayes Bernoulli methods for short range analysis resulting in 63% prediction accuracy. (Compared to industry average of 75% accuracy)
- Implemented main controlling program to modify parameters of classifiers and naïve bayes methods in-place, to adjust against poor predictions and ranging sizes of datasets.

British Petroleum Company PLC, East Lansing, MI
Whiting Steam Production Facility Analysis March 2016 – May 2016

- Ascertained production outputs of steam for a BP power facility to measure cost effectiveness.
- Wrote and compiled MATLAB functions and scripts to analyze production output efficiently.
- Reported all findings in a formal report involving outputs and code used to analyze data.

SKILLS & RELEVANT COURSEWORK

Languages: English & German.
Technical Skills: C++, Python, C, Object-Oriented Program Design, Agile, SCRUM, SDLC, MATLAB, Simulink, VHDL, PSpice, MathStudio, Wolfram Mathematica, AutoCAD, Revit, & Inventor.
Relevant Coursework: Discrete Mathematics, Algorithms & Data Structures, Linear & Abstract Algebra, Digital & Predicate Logic, Ordinary & Partial Differential Equations, Machine Learning, Numerical & Data Analysis, & Object-Oriented Programming.