Grattan W. Rowland, IV

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EDUCATION

Michigan State University, East Lansing, MI, Overall GPA: **3.0**
Bachelor of Science, Major in ***Computational Mathematics***, Major GPA: **3.3** **December 2020**
Minor in ***Computer Science Engineering,*** Minor GPA: **3.4**
Dean's list final 3 Semesters

Technical Proficiencies: C++, Python, C, CSS, HTML, JavaScript, SQL, XML, Object-Oriented Program Design, Visual Paradigm, Git, Agile, SDLC, MATLAB, Simulink, VHDL, PSpice, MathStudio, Wolfram Mathematica, AutoCAD, Revit, & Inventor.

WORK/PROJECT EXPERIENCE

MSU NSCL & FRIB Nuclear Physics Experimental Laboratory, East Lansing, MI
Student Technical Assistant I **December 2017 – Present**

- **Teamwork/Communication:** Collaborated with engineers to construct and test software and hardware control systems.
- **Mechanical/Electrical Skill:** Built and implemented components for a particle accelerator.
- **Attention to Detail:** Fabricated devices to an IEEE standard, capable of withstanding -200 °C.
- **Responsibility:** Exhibited practice of 4S safety regulations and lockout/tagout. Demonstrated safety techniques around radioactive waste and hazardous materials.
- **Work Efficiency:** Assembled over 200 separate power supplies, switches, and other mechanisms/electronics for superconducting magnets.
- **Problem Solving:** Designed, developed, and implemented enclosures for high voltage and current applications.

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

- **Software/Hardware Optimization:** Improved performance and output of network and CNC Mills.
- **Hardware Assembly/Network Construction:** Constructed servers and synthesized multiple networks.
- **Network Design:** Configured wiring and software setup of network infrastructure, mapping, and CCTV feeds.
- **Design:** Visualized and designed layouts for enclosures and infrastructure mappings with CAD.
- **Critical Thinking:** Repaired over 100 CNC Mills and their respective computer hardware.

PROJECT EXPERIENCE

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

- **Data Analysis:** Wrote programs to classify stock market data, flags, and signals to predict outcomes with machine learning.
- **Creativity:** Combined multiple machine learning methods for long/short range analysis resulting in 63% prediction accuracy. (Compared to industry average of 75% accuracy)
- **Application Structure:** Implemented main controlling program to modify parameters of machine learning methods in-place, to adjust against poor predictions, and ranging sizes of datasets.

Group Project: Project Leader, East Lansing, MI
Tower Defense Game **September 2020 – October 2020**

- **Team Leadership/Organization:** Led a team of 5 through the design, development, and implementation of a windows MFC application using Agile methodologies.
- **Project/Time Management:** Followed sprint-based workflow method, guaranteed bi-weekly deadlines were met, and project was completed on time.
- **Application Design/Task Delegation:** Designed UML for application, divided tasks among teammates, and used Git for version control.

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

- **Production System Cost Analysis/Improvement:** Ascertained production outputs of steam for a BP power facility to measure cost effectiveness and suggested ideas to save money.
- **Program Design/Implementation:** Wrote and compiled MATLAB functions and scripts to efficiently analyze production output.
- **Data Presentation:** Reported all findings in a formal report involving outputs and code used to analyze data.

SKILLS & APPLICABLE KNOWLEDGE

Foreign Languages: Intermediate German.
Applicable Knowledge: Machine Learning, Artificial Intelligence, Algorithms & Data Structures, Linear & Abstract Algebra, Digital Logic, Ordinary & Partial Differential Equations, Discrete Mathematics, Numerical & Data Analysis, & Object-Oriented Programming.