James Sutton, EIT

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Education

Bachelor of Science in Mechanical Engineering Graduated May 2018
University of North Dakota (UND), Grand Forks, ND

Work Experience

Notre Dame Turbomachinery Laboratory (NDTL) South Bend, IN
Test Engineer Feb 2022 - Present

- Built and functionally tested a regression based automation algorithm for Compressor vane control, improving existing accuracy by more than 15x and reducing testing time by >50% *(Python, CYRES ECW)*
- Created Logic Flow Diagrams of updated logic and Process Mapping of current system to understand insertion points
- Debugged, unit tested, and in-situ tested control code to evaluate system performance vs baseline
- Learned and implemented *CYRES ECW* code to control cell hardware, processing software, & acquisition equipment
- C/C++ based DLL development in support of specialized statistical significance testing for small datasets
- Owned lab test procedures, instrumentation, control code (*CYRES ECW, MATLAB)*, & data processing (*MATLAB)*
- Implemented version control to test cells in order to manage data processing code and cell hardware code *(Git)*

Whirlpool Corporation Saint Joseph, MI
Engineering Analyst - Ramp & Extraction Algorithms March 2020 - Feb 2022

- Lead $1M+ annual cost reduction project for Whirlpool's flagship Horizontal Axis Washer products
- Delivered 20,000+ PPM in quality improvements for Whirlpool's flagship Horizontal Axis Washer products
- Global Module Owner and New Product Introduction for R&E subsystem algorithms for the North American region
- Managed and coordinated multiple projects and testing to ensure timely completion of project deliverables
- Introduced Whirlpool teams to Google Colab and helped to automate data analysis and improve version control
- Developed backend analysis for a pump test fixture, reducing analysis time for a repeatable test by days *(Python)*
- Developed and deployed a variety of easy to access scripts to a cross-functional team through Google Colab *(Python)*
- Conducted code reviews and taught Python best practices to global engineering staff
- Collaborated with the data analysis team to automate SIR data collection and parsing activities (MySQL, HeidiSQL)

Associate Engineer - Ramp & Extraction Algorithms December 2018 - March 2020

- Worked on development and implementation of novel technologies that resulted in 20,000+ PPM quality improvement
- Analyzed test data to aid in model generation and algorithm calibration *(Python, JMP, and DiaDEM)*
- Analyzed and modify logic-based cycle definitions to troubleshoot various machine related issues
- Authored a patent application on behalf of Whirlpool (patent currently pending)

Notable Projects

Ramp & Extraction Subject Matter Expert - Westland Splendide August 2019 - June 2021

- Successfully led calibration and optimization activities, partially in a dynamic (work-from-home) environment
- Identified and developed a novel method for time calculation optimization which has been leveraged globally
- Interfaced with OEM customer both directly and indirectly to identify requirements, define targets, and review results

Adoption of Google Colab within Whirlpool Subteams August 2019 - June 2021
Stock Prediction via LSTM Machine Learning with TensorFlow/Keras May 2020
UND Frozen Fury Rocketry Team August 2015 - May 2018

Skills & Certifications

- Python (Incl. Pandas, NumPy, TensorFlow, Keras), MATLAB, PTC Creo/Autodesk/ANSYS CAD, C, AWS (Incl. S3, Route53), OpEx BlackBelt (Whirlpool), CYRES Sequencer (SAFRAN Test Cells), Minitab, JMP, MySQL, HeidiSQL