Stacy Irwin

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Professional Profile

I'm a former nuclear submariner who is transitioning to data science. I have over ten years' experience in programming and using statistical analysis to solve business problems.

Education

University of California, Berkeley – Master of Information and Data Science
U.S. Army Command and General Staff College, KS – Master of Military Arts & Sciences
Washington State University, Pullman, WA – Bachelor of Science in Physics, Summa Cum Laude
Naval Postgraduate School, Monterrey, CA – Systems Analysis Certificate (operations research program)

Experience

Leviton Network Solutions **Bothell, WA**
Senior Quality Manager Dec 2016 – Jun 2021

- Developed automated quality system reports and visualizations using R and ggplot2. Improved visibility contributed to a 50% reduction in corrective action backlog.
- Used Python and SciPy package to model the performance of fiber-optic components, giving the company the ability to predict how products would perform in customer applications.
- Trained engineers and other managers on process capability analysis and other applications of statistics to manufacturing operations.
- Achieved 25% reduction in product defects through a steady focus on error prevention and communication.

Crane Aerospace & Electronics **Redmond, WA**
Senior Quality Manager Aug 2010 – Nov 2016

- Developed a statistical model of the reliability of electronic components, allowing the company to verify the effectiveness of tests used for product screening and avoid a $400,000 charge.
- Implemented statistical process controls that improved manufacturing processes.
- Used statistical tools, including hypothesis testing, analysis of variance, and correlation studies to identify and correct the causes of product failures.
- Improvements to products and manufacturing processes contributed to doubling revenue during tenure.

U.S. Navy **Various, including VA, WA, NY, HI, and Japan**
Submarine Officer June 1990 – July 2010

- As a staff officer, developed a new, results-oriented training program for the Submarine Force and implemented the program on 68 submarines spread across seven homeports.
    - Developed the relational database that was used to manage the training program's content. Content included detailed training requirements and evaluation criteria that were mapped to submarine missions, types, and specializations.
    - Supervised two developers who created software for submarine crews to manage this program.
- Led multiple divisions onboard two nuclear submarines. Also completed tours in Naval intelligence and nuclear engineering. Promoted to Commander (O5) in 2006.

Volunteer Work

FIRST (For Inspiration and Recognition of Science and Technology) **Issaquah, WA**
Adult Mentor for the FIRST Robotics Competition team at Issaquah High School 2016 – Present

- Taught Python and SQL to students in the analytics subgroup and guided their development of a database-driven application to analyze and visualize robot performance data.

(Skills, Tools, and Projects on Next Page)

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Skills and Tools

- Python
- R
- SQL
- Statistical Analysis
- Regression Analysis
- Machine Learning
- Data Visualization
- Spark and MapReduce
- Deep Learning with Pytorch
- Pretrained Transformer Models
- Natural Language Processing
- Information Retrieval Models

Projects

Project Portfolio Page: https://irwinsnet.github.io/

Transformer Models for Information Retrieval (https://github.com/sirwin31/neural_info_retrieval) 2021
Final Project for Berkeley Data Science Program

Visualization Tool for Robot Position Tracking (https://github.com/irwinsnet/frc_path_viewer) 2021
Hobby project. Related to volunteer work for FIRST robotics. Try it at https://pviewer.herokuapp.com/pviewer

Transformer Model for Fake News Detection (https://github.com/sirwin31/w266_project) 2020
Student Project, NLP Course at University of California, Berkeley