Stacy Irwin

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Professional Profile

Manufacturing professional and U.S. Navy veteran who is transitioning to data science. An experienced leader who is accustomed to managing complex and critical systems and who also works effectively as an individual contributor.

Education

University of California, Berkeley – Master of Information and Data Science — Aug 2021 (anticipated)
Relevant Courses: Natural Language Processing with Deep Learning; Statistical Methods for Discrete Response, Time Series, and Panel Data; Machine Learning at Scale; Fundamentals of Data Engineering

Naval Postgraduate School, Monterrey, CA – Systems Analysis Certificate — 2007

U.S. Army Command and General Staff College, KS – Masters of Military Arts & Sciences — 2003

Washington State University, Pullman, WA – Bachelor of Science in Physics, Summa Cum Laude — 1990

Skills and Tools

- Python, R, SQL
- Statistical Analysis
- Regression Analysis
- Machine Learning
- Time Series Analysis
- Transformer models for NLP
- Information Retrieval Models
- PyTorch
- Spark & MapReduce
- AWS, Google Cloud
- Data Visualization with Matplotlib, Bokeh, and ggplot2

Experience

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

- Established processes for analyzing customer feedback, resulting in improvements to several products.
- 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

- Applied lean and six-sigma tools, including statistical process control and design of experiments, to solve problems and improve manufacturing processes.
- On one occasion, conducted statistical analysis to prove the reliability of microcircuits with a minor nonconformity, saving the company $400,000.

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.
    - Coordinated with Submarine Force senior leadership to implement the program on 68 submarines spread across seven homeports.
    - Supervised two developers who created software for submarine crews to manage this program.
- As a naval intelligence officer, reviewed, analyzed, filtered, and disseminated critical intelligence information to military forces operating in the Western Pacific.
- As an operations officer at a nuclear propulsion training facility, led 250 instructors who trained and certified over 1100 propulsion plant operators for the Navy's nuclear submarines and aircraft carriers.
- As a ship's operations officer, planned tactical and strategic operations for six strategic-deterrent patrols in the Pacific Fleet.
- Retired from the Navy in 2010 with the rank of Commander.

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Projects

Transformer Models for Information Retrieval 2021
Final Capstone Project for Berkeley Data Science Program, In-progress, Expected Completion in August 2021
Using transformer NLP models to incorporate a document's lexical, semantic and structural information into indexes used for information retrieval.

Transformer Model for Fake News Detection (https://github.com/sirwin31/w266_project) 2020
Student Project, NLP Course at University of California, Berkeley
Used PyTorch to implement a BERT-based transformer model for detection of fake political and celebrity news.

Robotics Analytics Application (https://github.com/irs1318dev/scouting2020) 2017 - 2020
Assistant Coach, Issaquah Robotics Society
Coached high school robotics students who developed and maintained an application to analyze robotics competition data. Uses Python, PostgreSQL, Pandas, Bokeh, and CherryPy HTTP server.

Python Course for Robotics Students (https://github.com/irs1318dev/pyclass_frc) 2020
Author and Instructor, Issaquah High School Robotics Team
Python course for high school students that focuses on data analysis. Developed and taught course via Zoom during pandemic while in-person activities were suspended.

R Package: firstapiR (https://github.com/irwinsnet/firstapiR) 2016
Developer, Hobby Project
Description: R package for retrieving robotics competition data from a web API.

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 an application to analyze robot performance data. The application was used to make real-time decisions during competitions.
- Mentored students in the awards subgroup, who analyzed the team's impact on STEM education within the school and community. The subgroup also prepared data packages and provided presentations to competition judges. The team received six awards that were based on these presentations and data packages between 2016 and 2020.