Will Sharpe

• wjsharpe41@gmail.com • 610-256-7852 • https://github.com/wsharpe41

EDUCATION

Massachusetts Institute of Technology, School of Engineering Cambridge, MA
Master of Engineering in Environmental Engineering May 2023
Climate, Environment, and Sustainability Track GPA 5.0/5.0

- Master's Thesis: "Investigating Aerosol Composition Using Low Cost Optical Particle Counters"
- Relevant Coursework: Machine Learning for Engineering Design, Atmospheric Chemistry, Global Change Science, Machine Learning for Sustainable Systems, Engineering Computation and Data Science

University of Maryland, College Park, School of Engineering College Park, MD
Bachelor of Science in Aerospace Engineering May 2019
Business, Society, and the Economy Scholars Citation GPA 3.5/4.0

RELEVANT EXPERIENCE

Kroll Group, Environmental Engineering Department, MIT Cambridge, MA
Researcher August 2022 - May 2023

- Generated, processed, stored, and applied machine learning to environmental dataset for use in academic research
- Created PostgreSQL database to store generated data efficiently
- Utilized cloud computing to more efficiently generate data
- Developed simulation models for the effects of lab instruments on low cost air quality sensor readings
- Utilized machine learning to accurately classify optical particle counter (OPC) inputs by aerosol type, and estimate chemical properties in Python using scikit-learn and TensorFlow
- Tested a wide array of different machine learning models to find best fit
- Wrote code simply and documented development work for future group members using Notion
- Effectively synthesized and regularly presented research results to 10-20 fellow engineers
- Designed lab setup which mirrored created simulation to close sim-to-real gap

General Dynamics Information Technology Remote
Systems Engineer Senior August 2021 - August 2022

- Led four engineers in development of software to connect systems models with a deployed virtual architecture using Java
- Collaborated with cloud-ops team to develop understanding of AWS virtual infrastructures
- Developed Java code to function in and enhance CI/CD pipeline and comply with configuration management practices
- Created system model data structures to succinctly describe deployed AWS cloud architectures
- Presented outputs of work to 100+ customers and stakeholders at quarterly meetings
- Wrote documentation for tools to help inform current and future workforce

Lockheed Martin Sunnyvale, CA
Systems Engineer August 2019 - August 2021

- Acquired expertise in Java and MBSE through independent learning
- Independently developed plugins to automate recurring tasks using Java, and Python
- Led construction of MBSE data models to store data in clear and readable manner
- Collaborated on tool to automatically create web pages from a data model using Java, HTML, CSS, and JavaScript

SELECTED PROJECTS

Particulate Matter Dataset Creation June 2023

- Collected and preprocessed data from multiple APIs on PM and climate variables for use by broader air quality community
- Visualized geospatial time series data in pictorial and video format using Matplotlib, Plotly and Jupyter Notebooks

Climate Policy Visualization May 2023

- Utilized Tableau to create dashboards to visualize change in GHG emissions over time
- Manipulated and processed time series geospatial data set with Numpy, Pandas, and Python for easy visualization

TECHNICAL SKILLS

- **Data Science**: NumPy, Pandas, MatPlotLib, BeautifulSoup, SQL, NoSQL, Tableau, Jupyter, scikit-learn
- **Software Engineering**: Python, Java, Optuna, PyTorch,Tensorflow, Git, Pydantic, Bash, Git