Trenton Bush

Portland, Oregon
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Experience

Data Scientist, Altosphere Analytics   2019 – 2020

Informed product and modeling decisions for a digital product startup in the industrial IoT space.

- Automated data quality monitoring and sensor diagnostics, including causal identification for various sensor issues and failures.

Wind Energy Analyst, K2 Management, Inc   2017 – 2019

Data consulting for global wind energy developers and asset owners. Primarily estimated future production.

- Created and maintained an ETL process for a terabyte-scale data warehouse of weather and industrial IoT data (python, SQL, bash).
- Pinpointed actionable turbine maintenance issues responsible for revenue losses of 2 to 10 percent via anomaly detection algorithms.
- Advised clients on cost/benefit of sensor maintenance actions. This required sensitivity analysis of downstream forecast models and careful consideration of uncertainty and risk.
- Led internal research into machine learning applications in a new domain. I presented at the international WindEurope 2019 conference, and colleagues presented at multiple national conferences.
- Developed internal python tools to enhance and to automate the capabilities of the analysis team

Graduate Research Assistant, University of Massachusetts Amherst   2013 – 2016

Funded research to design, build, and validate a powder spray deposition system from scratch.

- Developed a simplified model for exploratory analysis and rapid prototyping, saving considerable development time vs long-running physics simulations.
- Reduced operating costs 85% vs commercial systems.
- Published journal article and presented at national conference.

Technical Skills

Python data libraries: pandas, numpy, xarray, sklearn, scipy, lightGBM
Python general libraries: pytest, httpx, asyncio, logging, multiprocessing
Other software: SQL, bash, git, make, regex
Techniques/skills: spectral analysis, statistical programming, partial differential equations

Education

Grinnell College; Grinnell, Iowa   2012
 Bachelor of Arts, Statistics
 Bachelor of Arts, Physics
University of Massachusetts Amherst; Amherst, Massachusetts   2016
 Master of Science, Mechanical Engineering
DataCamp, Online   2020
 Ranked #1 student on the platform 4 times in a row