John Edmiston

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Experience

6/2019 - present MycoWorks, Emeryville, CA
Senior Data Scientist, Quality

Data systems architecture, Backend/Frontend, Distributed computing

- Created Python Flask app from scratch to manage production of mycelium leather, record production data (multiple choice options, photos), democratize data to R&D and Product develop team, house dashboard infrastructure, and utilize asynchronous capabilities to populate multiple data channels without affecting app performance
- Line worker productivity increased 30% due to focus on task execution, enabling 50% more total batches to be maintained
- Deployed MVP version, successfully cut over to more sophisticated architecture deployed on Heroku with no interruptions to production
- Developed Raspberry-Pi based sensor logging architecture to monitor temperature, humidity, and gas concentrations on minute by minute basis, including configuration of fresh device and remote software updates, to monitor process control of fermentation
- Developed forward simulation Monte Carlo model to predict flow of materials through hypothetical facility configurations, enabling prediction of deliveries accounting for multiple random effects
- Utilized Pub/Sub to communicate between Heroku application and Raspberry-Pi device connected to DSLR camera to trigger high resolution photographs, reducing number of manual steps an operator must take and improving data quality
- Developed dashboard infrastructure using Plotly Dash enabling progress toward KPIs to be visible throughout company

1/2019 - 6/2019 Proteus Digital Health, Redwood City, CA
Senior Data Scientist

Predictive modeling, Data integration

- Created software architecture to tie together multiple data sources for clinical outcomes and billing reports, and selected patients which met criteria for inclusion in program from EMR records

1/2018 - 1/2019 Hinge Health, San Francisco, CA
Data Scientist

Primary data link between backend and product, commercial, and clinical engagement teams

- Supported company from 25 to 80 employees as the only data team member, enabled intake of several million in revenue from billing arrangements, developed flexible ETL pipeline to report out KPIs, took body blows from changes to app backend in stride

10/2015 - 1/2018 Lawrence Livermore National Security, Livermore, CA
Mechanical/Structural Analyst

- Organized and performed multiple simultaneous high fidelity simulations via customized Python/shell scripts for parameter sweeps, post processing, facilitated with several complex data transformations of simulation input and output.

8/2013 - 10/2015 Lawrence Berkeley National Laboratory, Berkeley, CA
Postdoctoral fellow, Geomechanics

- Created custom high performance multiphysics code for the dynamic prediction of hydraulic fracture (crack path evolution and branching) for oil and gas industry applications

Additional projects

9/2017 - 1/2018 Insight Data Science, San Francisco, CA

- Developed diagnostic tool for patients to assess need for physical therapy by uploading a smartphone video of walking gait and categorizing the abnormality, if present, https://gaitanalyzer.info

Skills

Languages	Python, R, C++, C, Fortran, Matlab, Mathematica, Labview
Packages	Scikit-learn, Pandas, NumPy, SciPy, PETSc, VTK, Boost-Python, MPI, OpenMP, Celery, GCP
Other	Distributed computing (Pub/Sub, parallel computing, Cloud functions), machine learning, modeling physical systems, uncertainty analysis

Education

2006-2012	PhD, University of California, Berkeley, CA, Mechanical Engineering
2004-2006	MS, University of Wisconsin, Madison, WI, Mechanical Engineering
1999-2004	BS, University of Minnesota, Minneapolis, MN, Mechanical Engineering