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Parker Bremer

Seeking Data Science Internship

Personal Website: plbremer.github.io
LinkedIn Profile
GitHub Profile

Self-driven data scientist with history of designing and implementing innovative analyses.
This résumé is interactive. Click this color to learn more!

Project Experience

Mining Actionable Insights from 3,000+ Metabolomics Studies

- Mined and presented actionable summaries of 64+ million experimental results by creating a custom database-to-database informatics pipeline and front-end/RESTful API
- Enables researchers to identify metabolic differences between broad sample groupings such as cancerous/healthy
- Publication: Project in development

Custom ML and Visualized Analytics of Chemical Signal Prediction

- Identified strengths and weaknesses of a signal prediction model using a custom clustering method and complementary statistics/cheminformatics
- Produced evidence that allowed our lab to rationally abstain from integrating this tool into our compound-identification pipeline, which saved many hours and avoided potentially incorrect compound-identifications on client samples
- Publication: In review at Journal of Cheminformatics

Custom ML and Visualized Analytics of Protein-Drug Binding

- Discovered and described protein-drug binding behavior with a custom informatics pipeline and novel result visualizations
- Generated insight into protein-inhibitor behaviour that enabled our collaborators to rationally propose the chemical structures for their next synthetic work
- Article in Journal of Chemical Information and Modeling

Education

Ph.D. Chemistry — *UC Davis, Fiehn Lab* — GPA: 3.87/4.0 — August 2020 - Present

M.S. Chemistry — *CSU Long Beach, Sorin Lab* — GPA: 3.85/4.0 — August 2017 - May 2019

Graduate Dean's List - Awarded to Top 1% of Graduate Students

B.S. Chemistry — *UC Davis* — GPA Post-chemistry: 3.60/4.0 — June 2016

Select Work Experience

Operations Supervisor — June 2019 — May 2020

Berkeley Analytical — *Richmond, CA*

- Optimized productivity by organizing workload among team of five
- Developed Python scripts to automate lab processes including: report generation, record generation, method validation
- Wrote work-instructions in compliance with ISO 17025: 2017 standards

Coding Skills Overview

Python

- pandas, sklearn, pytorch, numpy, flask, dash, networkx, snakemake

Computing Stack

- PostgreSQL, Amazon Web Services (ECS, RDS, Lambda), Slurm, Unix scripting, Java

Additional Experience

Project - Chemical Classifier and Anomaly Detector

- Developed a tool that identifies prediction requests that are unlikely to succeed in a classifier. Wrangled dataset and developed custom features and sklearn pipeline

Project - Chemical Substructure Predictor

- Predicted chemical substructure with a 14% false discovery rate using a fully connected neural network whose architecture included over 200 designs tested on two campus clusters.

Course - Graduate Statistical Methods in Machine Learning

- Select Topics: Bias/variance, linear/logistic regression, convex optimization, support vector machines/kernels, decision trees/random forests, dimensionality reduction, clustering, neural networks

Independent Study

- Text: Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow (Aurélien Géron) — pandas/numpy data wrangling, linear/logistic regression, XGBoost, dimensionality reduction
- Coursera class: Machine Learning with Andrew Ng — parametric/non-parametric algorithms, support vector machines, kernels, neural networks, clustering, dimensionality reduction, recommender systems