DANIEL BARRERA

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EDUCATION

The University of Texas at Austin Bachelor of Science Petroleum Engineering May 2020
Minor: Business
Additional Coursework in foundations of computer science
Overall GPA: 3.6/4.0

EXPERIENCE

Qualitest –*Software Testing Engineer* February 2021 - Present

- Curated and migrated 10 terabytes of raw json, xml, and yaml files to eventually reach their respective schemas in databases.
- Automated format verification by writing a bash script to query multiple text files when SQL was unreliable.
- Analyzed and completed 20 quality assurance reports for global launches of our products in Spain, United States, and the U.K.
- Developed tools to generate java snips of code to eliminate redundancy in the ETL pipeline.
- Trained coworkers on subjects such as Linux, source control, json format, ETL pipeline, cloud services (such as Big Query).

The University of Texas at Austin- *Senior Thesis* January 2020 - May 2020

- Created a drilling completion, and production design for an Otsego County, well in Michigan U.S.
- Calculated the energy output by through decline curves for the volume produced, and monte carlo simulations.
- Reported regulatory and facilities cost using the government data from Michigan.
- With the hydrocarbon price outlook of 20 years, amortized an investment of 10 million to estimate return on investment.

The University of Texas at Austin- *Lab Assistant* May 2019 - September 2019

- Created 200+ chemical samples to research the interfacial effects from different surfactants in different oils.
- Gained experience in both developing chemical solutions and core flooding experiments to simulate in situ reservoir conditions.
- Compiled 2 research reports.

ACADEMIC PROJECTS

Geo-Statistics

- Created statistical workflows in Jupyter Notebooks to estimate well performance (Kriging functions, and Bayesian methods).

Reservoir Engineering

- Wrote a multiphase flow simulation in java by solving a general case and using object-oriented programming to reach the 3d case.

Subsurface Machine Learning

- Used, bootstrapping, Bayesian regression, k-nearest neighbors, tree-bagging, and neural networks in python to train data and eventually estimate unknown properties in the subsurface such as permeability.

High Computational Engineering

- Simulations were optimized for high computational loads. Algorithms and sparse matrixes decreased the data load. Parallel programing with MPI and PyTrillinos to manage load balancing.

LEADERSHIP EXPERIENCE AND ACTIVITIES

Qualitest

- Lead multiple daily scrum meetings.
- Onboarded new hires with little technology background.
- Provided multiple presentations on different text formats, querying languages, and bash scripting.

HONORS

McKinsey Freshman Diversity Leaders Development Program
Halliburton Scholar
Presidential Scholar
James L. Collins Scholarship
Citizens National Bank Scholarship

ADDITIONAL INFORMATION

Computer Skills: Java 11, Python, Jupyter Notebooks, Agile, Scrum, GitHub, SQL, Google Cloud Services, Maven, dabbles in frontend.
Languages: Native English Speaker.