BARUN DAS
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EDUCATION

Masters of Science, Petroleum Engineering	The University of Texas at Austin	May 2025
Bachelor of Science, Petroleum Engineering	The University of Texas at Austin	May 2018

Computer Skills:
Programming Languages: Python, Go, Scala, C++, Julia
Data Engineering: SQL, NoSQL, Snowflake, AWS Lake Formation, Kubernetes
Machine Learning & Data Science: TensorFlow, Pandas, Flux, Numpy
High-Performance Computing: CUDA, Parallel Computing

Eligible to work in the USA

EXPERIENCE

Software Engineer / Data Scientist– Resermine Inc. 2020- Present

- Used **Elasticsearch** for fast search and retrieval of historical production and injection data.
- Used **PostgreSQL** to maintain structured well production datasets with defined schemas.
- Architected and maintained an **AWS-based Data Lake** that centralized raw and processed data from diverse sources, enabling real-time analytics and enhanced machine learning workflows.
- Developed a workflow that utilized **Neural Networks** and optimization algorithms to add value to the oil and gas field analysis workflow.
- Sped up a hybrid reduced-order model by 5x by converting the source code to Julia and changing the optimization scheme from sequential quadratic programming to a quasi-newton method.
- Sped up a hybrid-reduced order model by 10x by incorporating **CUDA GPU programming**.
- Integrated variations of hybrid modeling code into the backend using PyCharm in 50% of allotted time.
- Developed five different Decline Curve Analysis workflows for a European oil company with two other colleagues: Standard, **Machine Learning (LSTM)**, Probabilistic Forecast, Autofit, and Multisegment.

Graduate Research Assistant, Petroleum Engineering, Dr. John Foster – UT Austin 2019 – Present

- Developed HPC-based algorithms to solve computational fracture mechanics problems.
- Participated in the 4th Sandia Fracture Challenge.
- Coupled the M7-Microplane model with the Bond-Based Peridynamics equation to simulate wellbore stability problems.

Teaching Assistant, Drilling Engineering & Physics UT – Austin 2021-Present

- Held 50% more office hours than expected for both courses.
- Graded all assignments for both courses within 24 hours of submission.
- Taught 70 students (Drilling) and 40 students (Physics) on a weekly basis the fundamentals of drilling engineering and physics.

LEADERSHIP EXPERIENCE AND ACTIVITIES

2nd PGE Data Science Hackathon – Team Lead Spring 2022

- Led a team of petroleum engineers and computer scientists to forecast the 2-Year Cumulative Oil Production and well placement of 3 wells using a mostly physics-based approach coupled with geostatistics over a 48 hour period.
- Placed 12th overall and 3rd on code out of 30 teams.

Front Rower – University of Texas Men's Rugby Club 2021- 2025

- Attended practice twice a week and played some 7s/ 15s games.
- Encouraged fellow teammates to develop a weightlifting regimen and nutrition plan.