

# GAGE RUSSELL

TECHNOLOGY LEADER • AUSTIN, TEXAS • 512.657.7353

## ◦ DETAILS ◦

Austin  
Texas  
512.657.7353  
[gage.russell.atx@gmail.com](mailto:gage.russell.atx@gmail.com)

## ◦ SKILLS ◦

Kubernetes

Python

Data Science Workflow  
Orchestration

Full Stack Software Development

DevOps, IaC, CI/CD

GPT/Vector Search  
Implementation

Serverless Architecture

Snowflake

dbt

Airbyte

Apache Airflow

Apache Spark

Computer Vision

ML Model Orchestration

SQL / NoSQL Data Orchestration

Data Lake Management

.NET Core

Golang

Rust

JavaScript

Analytical Web-App Development

Statistical Quality Control

Data Visualization

Manufacturing Process Analytics

Data Modeling

Cloud Platforms (AWS, Azure)

Tutoring / Leadership

People Management



## PROFILE

Technology leader with senior level experience in **fast paced AI startup** environments, **mature SaaS** environments, and leadership experience in the **cloud/technology modernization** of outdated environments. Experience developing data science and engineering infrastructure and workflow orchestration; machine learning model training, management, and real-time execution; full stack software development, architecture design, and devops with an **Emphasis on Kubernetes and applied ML**.



## EMPLOYMENT HISTORY

**Senior Data Science Engineer/Head of Software & IT at Taurex Drill Bits, Remote**  
June 2023 — Present

Theme: **Learning how to be a CTO**

- **Leading a team of 5** ranging software, data, ML, and IT under a new regime with an emphasis on **modernization, quality, and reliability**.
- Transitioned 4 full stack applications into **modern source control and CI/CD**.
- Developed the **company's first cloud-hosted, customer facing web application**.
- Transitioned high-volume robotic image-capturing process from cron-based/on-prem to **event-driven/cloud architecture**.
- Implemented **real-time multi-label image classification** to infer damage modes of granular components on a drill bit and deliver viewing capabilities using DeepZoom technology - **ONNX**, Azure ML Studio, **MLFlow**, OpenSeaDragon.
- Designed and implemented **ELT-driven data analytics platform - Airbyte, dbt-, Snowflake, Streamlit, Terraform**.
- Transitioned the company away from paper field tickets for rental and sales products by implementing **real-time inventory and digital ticketing system**.
- **Effectively led, budgeted, and communicated** modern software and technology adoption to non-technical stakeholders.

**Senior Data Engineer at Alaffia Health, Remote**  
November 2022 — June 2023

Theme: **Learning how to impact an early stage startup**

- Developed vector search and **GPT-integration API** for auditing medical records - **Kubernetes**, FastAPI, **homegrown vector search database** with S3 and parquet.
- Served as one of two interim DevOps engineers during DevOps absence - **Kubernetes, helmfile, Flux CD, kubectl, eksctl, Pulumi**.
- Implemented LocalStack into kind local development cluster to fill gaps around AWS services - **Kubernetes, Kind**.
- Implemented **Airflow** into kind local development cluster.
- Developed document management API to effectively store and access large medical records - **Kubernetes**, FastAPI, SQLAlchemy, **Alembic, helm, Flux CD**.
- Developed clearinghouse integration and EDI UB-04 parsing service for automated ingestion of uniform medical bill PDFs - **Airflow**.
- Overhauled and **automated unit and integration testing** across all python services achieving up to **100% code coverage** across numerous repositories.

**Data Engineer at Q2, Austin, TX**  
January 2021 — November 2022

Theme: **Learning what big data means at a SaaS company**

- Schedule and manage the orchestration of **35,000+ nightly ETL and data science jobs - PySpark, Python, Kubernetes, Airflow**.
- Implemented a SQL interface to Azure Data Lake:
  - Evaluated Presto, Snowflake, and Databricks SQL
  - Implemented CI/CD, source control, and auto-SQL generation for metadata and schema management.
  - Delivered Databricks SQL for internal use and provided training on usage through PowerBI.
- Developed integration testing framework for **Spark ETL jobs**.

- Optimized data science workflows:
  - Reduced one "problem" job from **4 hours to 30 minutes**.
  - Identified and fixed memory leaks in multi-threaded Python jobs
- Led the POC of a UI for a self-service data product:
  - Evaluated Tableau, PowerBI, Looker, Sysense, and Yellowfin.
  - Implemented self-hosted Yellowfin exposing a schema-unaware data-lake to raw-data purchasers.

### Senior Data Quality Engineer at JP3 Measurement, a Flotek Company, Austin, TX

January 2019 — January 2021

Theme: **Data engineer or die trying**

- Developed the infrastructure for creating, maintaining, and storing petroleum-fluid lab analysis data:
  - Developed ETL for incoming lab reports using Python
  - Developed analytical web-app for monitoring statistical quality control of incoming lab data and the infrastructure for alarming on out-of-control events
  - Developed the lab sample management system back-end (Python/Flask and AWS Lambda and API-Gateway) and front-end (ReactJS)
  - Developed SDK's in Python, Matlab, and R for accessing lab data and corresponding spectra for chemometric modeling
- Developed the infrastructure for visualizing and sharing system performance data:
  - Developed the API to aggregate and link spectral data to lab data
  - Developed the visualization tools, hypothesis testing, and other algorithms to assert performance between modeled fluid-properties and lab data
  - Developed the API and co-developed the UI for sharing performance reports internally and externally
- Developed statistical quality control and the storage of acceptance testing for optical time-domain reflectometer measurements
- Developed the API's and dashboards for visualizing system log data and served as an expert in troubleshooting system issues
- Developed predictive maintenance and programmatic troubleshooting techniques for hardware and software issues at the edge

### Manufacturing Excellence / Chemical Engineer at International Paper, Valliant, OK

May 2018 — January 2019

Theme: **Hello World**

- Performed data analysis, process control, and project management roles for capital projects around plant optimization and cost-reduction
- Improved dependability and usage of in-line FTIR analyzer for monitoring causticizing degree of green liquor
- Co-lead Advanced data analytics trials with Osisoft and Braincube

## ★ TEACHING

### Python Instructor at Goodwill Career and Technical Academy, Austin, TX

January 2021 — Present

- Started the first programming course offered by Goodwill from scratch including syllabus and curriculum development
- Taught four 10-week entry level Python courses to date

### Engineering Tutor at University of Oklahoma, Norman, OK

August 2015 — May 2018

- Tutored Algebra through Partial Differential Equations and all engineering courses
- Certified Advanced Tutor through CRLA and received the Ian and Richard Crawford Award for Outstanding New Peer Learning Assistant

## 🎓 EDUCATION

### BS, Petroleum Engineering | Minor Mathematics, University of Oklahoma, Norman, OK

August 2015 — May 2018

Graduated with 3.88/4.00 GPA and served as Treasurer and/or Tutor-Chair of the Society of Petroleum Engineers all 3 years.



## INTERNSHIPS

### High-Performance-Computing Intern at Blue Waters Student Internship Program

May 2017 — May 2018

- Worked with program mentor and graduate students to develop a high-performance, multi-component, multi-phase simulator for subsurface fluid flow in Matlab
- Completed 90 hours of training in high performance computing and parallel programming

### Reservoir Engineering Extern at Crescent Point Energy, Norman

May 2017 — July 2017

- Developed my own tool-set for decline curve analysis (DCA) in Python including the use of FBProphet for time-series analysis in addition to all traditional DCA techniques
- Analyzed 2600 wells for the efficacy of waterflooding

### Virtual Science Lab Content Intern at Macmillan, Austin

June 2016 — September 2016

- Updating and correcting the HTML code for virtual science labs
- Learning Agile project management skills using Jira
- Led project to consolidate and document virtual lab content in Confluence