Shahwar Saleem

Software Engineer · Machine Learning · Data Management

I'm a Machine Learning Engineer with a degree from the University of Waterloo, focused on building and productionizing ML models at scale. I specialize in developing robust ML and data platforms, and I'm passionate about streamlining workflows to bring machine learning solutions efficiently into production environments.

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GOALS

- Gain deeper insights into the unique requirements of machine learning workflows across diverse domains.

- Continue refining system design skills and strive for technical excellence through hands-on experience and continuous learning.

- Aspire to lead ML and data teams by leveraging system design expertise, practical experience, and a strong focus on cultivating a collaborative, learning-driven culture to build scalable and impactful platforms.

SKILLS

- Team Work
- ML Platforms
- Software Engineering & Machine Learning
- Software Architecture
- Data Management
- Agile and Scrum

TECH

Python	●	●	●	●	●
Git	●	●	●	●	●
Databricks	●	●	●	●	●
CICD	●	●	●	●	●
Spark	●	●	●	●	●
AWS	●	●	●	●	●
Flyte	●	●	●	●	●
Kubernetes	●	●	●	●	●
Kubeflow	●	●	●	●	●
Airflow	●	●	●	●	●
Terraform	●	●	●	●	●
Cloudformation	●	●	●	●	●
Golang	●	●	●	●	●

WORK EXPERIENCE

Present
Nov 2022

Senior Software Engineer | MLOps
Ripple · Toronto, ON, Canada 📍

At Ripple, I led the migration of our team's Databricks workspace from GCP to AWS, successfully transferring dozens of machine learning models and hundreds of historical experiment records. I designed and built a reusable, Python-based ML platform package for Databricks, now adopted across the organization to streamline model development and deployment. I also defined the versioning strategy and implemented a continuous delivery pipeline for the package. In addition, I pioneered and now maintain generalized data pipelines that support multiple teams, enabling scalable and consistent data workflows. Beyond technical contributions, I actively foster a strong team culture by facilitating design reviews and leading agile ceremonies such as retrospectives, sprint planning, and backlog grooming.

Nov 2022
Jan 2022

Software Engineer | Machine Learning
Arctic Wolf · Waterloo, ON, Canada 📍

Led requirements gathering and design sessions for the ML platform at Arctic Wolf, with a strong focus on the company's unique data analytics-driven use cases. Designed illustrative examples and implemented two proof-of-concept (PoC) projects to evaluate and benchmark tools within the ML platform ecosystem. Spearheaded the deployment of Kubeflow and Flyte in the development environment as part of the evaluation process for scalable and production-ready ML orchestration solutions.

Jan 2022
Jul 2019

Software Engineer | Machine Learning and Data Platform
Borealis AI | RBC · Waterloo, ON, Canada 📍

Designed and implemented an ETL and reverse ETL-based data access platform, simplifying data retrieval to a single API call for Spark DataFrames in Parquet format on S3, reducing access time from hours to seconds.
Deployed Delta Lake on an on-premises cluster to optimize performance, and packaged it into a Python solution for ML teams. Led the design, versioning, and release management of the platform, ensuring efficient data access and improved user experience. Spearheaded the creation of a data access platform that enabled faster ML pipeline onboarding and real-time integration of synthetic and real credit card data. This solution reduced onboarding time from weeks to days and improved time-series data retrieval through Delta Lake, cutting access time from hours to seconds.

Jul 2019
Aug 2018

Software Engineer | Machine Learning Engineer
Pronavigator · Kitchener, ON, Canada 📍

Designed and implemented a Neural Network-based Natural Language Understanding (NLU) engine for Pronav, addressing the performance limitations of the existing SVM-based engine. The new NLU engine resulted in significant cost savings, reducing server expenses by thousands of dollars per month, and improved request response times by a factor of 100.
Developed an accuracy evaluation tool using the Confusion Matrix technique, specifically tailored for text classification, which identified critical issues within the data cleaning process of Pronav's NLU engine.
Revised and documented the data cleaning process, providing Data Analysts with a framework to evaluate data from the NLU engine's perspective prior to labeling. This refinement led to a 10-15

Work experience prior to 2019 is visible on in **LinkedIn**.

INTERESTS & EXPERTISE

ML Platforms · Data Platforms · Data Management · Software System Design · Machine Learning Engineering · ML in Prod · Feature Stores · Travelling · Snooker · Food

🎓 FORMAL EDUCATION

2018
2016

MEng | Computer Science
UNIVERSITY OF WATERLOO · Waterloo, ON, Canada 📍

As a Graduate Research Assistant at Autonomous Vehicles Lab, I designed the build system of ROS components deployed onto the car. Ported ROS to QNX over ARM architecture released just for the vehicle.

Course work involved learning about Machine Learning and rigorous Mathematics that goes into building different models. Polished my Software Architecture skills along the way.

2013
2009

Electrical and Computer Engineering
UET · Lahore, Pakistan 📍

An Electrical Engineering Degree with Computer Sciences lead me to understand how computers are build from scratch. It gave me the ability to visualize what exactly is happening at hardware level when we write a piece of code. Developing a Beowulf Cluster customized for compute loads was an ideal outcome of this learning journey.

❝ PHILOSOPHY

Here are some thoughts that guide my actions as an engineer.

❝ *Success is a few simple disciplines, practiced every day; while failure is simply a few errors in judgment, repeated every day.*
– Jim Rohn

❝ *With most subjects, it is more important to really understand the basic material than have exposure to more advanced concepts.*
– S. S. Skiena

❝ *The people that really create the things that change this industry are both the thinker and doer in one person. [...] It's very easy to say "I thought of this three years ago". But usually when you dig a little deeper, you find that the people that really did it were also the people that really worked through the hard intellectual problems as well.*
– Steve Jobs

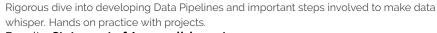❝ *It is not that I'm so smart. But I stay with the questions much longer.*
– Albert Einstien

🖥 SELF-EDUCATION

Jul 2021

Data Engineering Nano Degree
UDACITY 💻

Rigorous dive into developing Data Pipelines and important steps involved to make data whisper. Hands on practice with projects.
Results: **Statement of Accomplishment**.

Jul 2021

Accelerating Data Engineering Pipelines
NVIDIA 💻

Learned to accelerate Data Pipelines with the use of GPU by employing Cuda version of different libraries like cudf
Results: **Statement of Accomplishment**.

Aug 2018

Deep Learning Specialization
DEEPLEARNING.AI VIA COURSERA 💻

Learned about Deep Learning and Neural Networks from scratch upto an abstraction level of CNNs and RNNs.
Course Results: **Neural Networks and Deep Learning**, **Improving Deep NNs**, **ML Project Structure**, **Convolutional NNs** .

📖 PUBLICATIONS

June 2018

An Automated Vehicle Safety Concept Based on Runtime Restriction of the Operational Design Domain
IEEE INTELLIGENT VEHICLE SYMPOSIUM 📄

Designed and implemented a strategy to alert the autonomous vehicle when a camera is obstructed. This was done using Deep Neural Networks and using ROS for vehicles.

📞 REFERENCES

My references are available upon request. Among others, they include:

Managers	Khaled Ammar (ex-Google), Amir Abdi (Microsoft), George Long (ex-RBC)
Reports	Nada Saiyed