Shahwar Saleem

Software Engineer · Machine Learning · Data Management

Began my career as an embedded software engineer and transformed into a Machine Learning Engineer after graduating from University of Waterloo. Later, my interest evolved into generalizing ML problems to build domain specific ML platforms. I am a team player equipped with ML experience in finance and security domain. I am passionate to productionize ML models and ease out processes of Data Management and Machine Learning for multiple teams.

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🧭 GOALS

- 🧪 Learn about the needs of Machine Learning processes in different domains.
- ⇄ Find a pattern in majority ML Platform and Data Platform use cases.
- 🔗 I enjoy designing robust systems and would love to achieve more perfection in my work through experience.

🧩 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
- Golang

💼 WORK EXPERIENCE

Present – Nov 2022

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

Lead Databricks workspace migration from GCP to AWS for my team and moved tens of models along with hundreds of experiments history. Leading design reviews and team ceremonies. Designed and build a common Python Package based ML platform to be used on Databricks across Ripple. Designed and contributed to versioning strategy and continuous delivery of the package. Pioneered and now maintaining generalized Data Pipelines with Databricks for multiple teams in Ripple.
Positive influence on team culture by leading team building ceremonies such as retro, backlog grooming, planning etc

Nov 2022 – Jan 2022

Software Engineer | Machine Learning
ARCTIC WOLF · Waterloo, ON, Canada 📍

Lead requirements and design sessions for ML platform at Arctic Wolf. Since, there was a lot of data analytics involved, ML platform use case was very specific in Arctic Wolf. Designed toy examples and implemented two POC projects for the evaluation of all the tools in ML platform. Lead deployment of Kubeflow and Flyte in Dev environment for evaluation of ML platforms.

Jan 2022 – Jul 2019

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

Implemented ETL and reverse ETL like data access platform for later to be injected into Feature Stores. Data access process was simplified to just one API call and a few seconds to retrieve Spark DataFrame from a Parquet based optimized tables stored in S3 Storage. Prior to this, accessing data from RBC was a huge problem and took hours of time to run query on a Teradata source.
Designed and Implemented robust Jenkins + Openshift based scalable CI/CD pipeline for pip packages. This pipeline automated the package delivery to users through artifactory within Borealis AI. Integrated a versioning strategy with pipeline to streamline release process. Release process was cut down to automated minutes from hours of human intervention.

Jul 2019 – Aug 2018

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

Designed/Implemented Neural Network based NLU Engine for Pronav. This design was proposed after analysing poor performance of SVM based NLU Engine of Pronav. New NLU Engine saved thousands of dollars of server costs per month and responded to requests 100x faster than the SVM based NLU Engine.
Designed/Implemented an accuracy evaluation tool, which highlighted major issues with Data Cleaning process, based on Confusion Matrix technique tailored to text classification needs of Pronav NLU Engine.
Reformed and documented the data cleaning process for Data Analysts to look at the data from NLU Engine perspective before labelling. An accuracy performance increase of 10 to 15% was evident because owing to more context driven confusion matrix data was labelled accordingly.

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

2016
2018

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.

2009
2013

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.

🖥 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**.

July 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