Danial Amin

Team Leader | Data Scientist | People's Manager

I develop data-driven strategies that will achieve business goals and add value to the organization.

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Profile's Summary

As a seasoned Data Science leader, I bring deep expertise in analytics and strategic decision-making. I excel in guiding teams to develop sophisticated data pipelines with Python, TensorFlow, and Amazon Sagemaker, driving innovation and impactful solutions in diverse sectors. My focus is on uncovering insights, optimizing processes, and forecasting trends, with a commitment to technological advancement and continuous learning. My leadership is defined by collaboration, a detail-oriented approach, and a dedication to contributing significantly to the data science and machine learning fields.

Key Capabilities

Explainable AI	●●●●○
End to End Data	●●●●◐
Large Language Models	●●●●○
Deep Neural Networks	●●●●○
Leadership & Teamwork	●●●●◐
Peoples Management	●●●◐○
Planning & Development	●●●○○
Natural Language Processing	●●●●○

Experience

i13 Ventures Studio
Remote, Ireland

AI & Data Science Lead — *Sep. 2023 - Date*

- **Leading** the data science and data analytics practice to develop Large Language Models (LLMs) based ventures and drive the navigation of the organization.
- **Envisioning** the studio's theme and mission in the domains of AI and ML through lean and agile practices.
- **Creating** end to end products with optimized performance through dedicated and on-prem hosted server orchestrations.
- **Designing** the studio's design strategy for implementing inclusive and AI oriented design thinking process for the impactful projects in startup ecosystem.
- **Developing** a **ideation** and growth strategist using generative AI with explainable AI framework.

`LLM` , `Generative AI` , `Explainable AI` , `Predictive Analytics` , `Transformation Consultancy` , `Enterprise Solutions`

Abacus Global
On-site, Pakistan

Head of Data Analytics | Lead Data Scientist — *Feb. 2023 - Sep. 2023*

- **Leading** the data science and data analytics team to develop **customer oriented data solutions** covering data mining, exploratory data analytics, perspective data analytics, descriptive data analytics, time variant data analytics and predictive data analytics for a broad spectrum of industries including **financial, retail, consumer based products and real estate industry** using legacy statistical data modeling, traditional machine learning, deep neural networks, reinforcement learning, and meta learning on Python, Google Cloud products, AWS and Microsoft based solutions.
- Developing **big data analytics** infrastructure, framework and strategies incorporating **AI/ML** and DL for enterprise clients in multitude of industries using **GCP**
- Leading the **data analytics division** at the global level and managing a team of more than 20 developers
- Driving the organizational policy and strategy in the domains of data science and analytics and providing direct insights to top management for orchestrating the vision of **data analytics division**

`GCP` , `Big Data Analytics` , `Big Query` , `Predictive Analytics` , `Transformation Consultancy` , `Enterprise Solutions`

Automat Solutions Inc
Remote, USA

Lead Data Scientist — *Feb. 2022 - Feb. 2023*

- Developed a dedicated pipeline with an ensemble of **14 x Estimators** with a multitude of pre-processing strategies /transformations /feature engineering techniques for **Reliable** and **Robust Prediction** of **electronic Vehicle Battery's Performance Properties**.
- Developed chemical composition prediction algorithm for **self-driving chemical generating work-flow** in order to optimise the conductivity of the battery material at **a higher throughput**.
- Built fully automated Machine Learning pipeline for **Classification of a series of Chemical Compositions** with an **ensemble of state of the art Classifiers** into High /Low Performance Materials for **electronic Vehicle Battery's Performance Properties**
- Developed a **Dedicated Pipeline** with an **ensemble of state of the art Regressors** along with a collection of Feature Engineering Techniques for **Black-box Optimization** of the Solution Space using **Bayesian Optimization**.
- Conducted **Multi-Objective Optimization** using **Genetic Algorithms/ Evolutionary Algorithms** for enhancement of throughput of **Optimized Solution Space** with a sequential workflow strategy.
- Conducted **Multi-Objective Optimization** using **Reinforcement Learning for sub-space optimization** of **Optimized Solution Space** in an environment-less infrastructure
- Developed **dedicated package for automation** of weekly/fortnightly/monthly/quarterly report generations.

`Python` , `Bayesian Optimization` , `Reinforcement Learning` , `Black Box Optimization` , `Multi-Objective Optimization` , `Genetic Algorithms`

Omdena Inc
Remote, USA

Lead ML Engineer — *Feb. 2021 - Feb. 2022*

- Led a team of **05 ML engineers** with the task of implementation of **image classification model using a variety of architectures for CNNs** and select the optimum architecture with an **overall accuracy increase of 12%** than previous models.
- Developed **Object Recognition Pipeline** for detection of Human Trafficking and Smuggling along the shores of Africa using **Daylight and IR images**
- Worked on **Reinforcement Learning** for estimation of **Receptivity Score** using **twitter and web-based unstructured data.**
- Created & Deployed an **intrinsic estimation model** which increased **the content reach of NPOs/NGOs** for funding and other opportunities by **20%**

Python , CNN , Reinforcement Learning , Computer Vision , Unstructured Data , Sentiment Analysis

Government of Pakistan
Onsite, Pakistan

Assistant Manager — *Aug. 2017 - Nov. 2022*

- Implemented a **Reliable & Real Time** fuel consumption estimator using **Deep Neural Networks** for Unmanned Aerial Systems which effectively **increased accuracy by 72%** as compared to trivial method.
- Implemented a **SMART Technical Record Management System** which optimized the overhauling and maintenance schedules of **52 aircraft components** using AI based **Anomaly Detection Framework on Time Series Data**
- Spearheaded the **development of SMART Predictive** Maintenance & Product Inventory Management System using **LSTM RNNs based Forecasting**
- Reduced the **risk factor of the autonomous flight by 27%** by introducing **AI-enabled Early Warning System**
- Conducted **23 Root Cause Analysis Sessions** with **proprietary AI-Enabled** Fault Tracing and Forensic Engineering Mechanism.

Matlab , Python , RNN , Forensic Engineering , Time Series Analysis , Engineering Data , Anomaly Detection

Education

Data Science and Machine Learning: Making Data Driven Decisions
Distance Learning, USA

Massachusetts Institute of Technology — *Dec 2023 - To Date*

- An executive hands-on program focused in data science and analytics in business landscape.

International Masters in Business Administration
On-site, France

Rennes School of Business — *Sep 2023 - To Date*

- An executive Masters in Business administration focused on sustainability, innovation, intelligence and infomartion.

M.S in Advanced Data Analytics (Computational Data Analytics Track)
Distant Learning, USA

Georgia Institute of Technology — *Aug. 2019 - Aug 2020*

- **Analytical Practicum:** Air Sprint Aviation, Canada
- **Major Courses:** Data and Visual Analytics, Data Analytics in Business, Time Series Analysis, Bayesian Statistics, Computational Data Analysis, Deterministic Optimization, Reinforcement Learning, and Deep Learning

Micro Masters in Data Science
Distant Learning, USA

University of California San Diego — *Aug. 2021 - Mar 2023*

- A program comprising of **04x graduate level courses** including: Python For Data Science, Probability and Statistics in Data Science using Python, Machine Learning Fundamentals, and Big Data Analytics Using Spark

Micro Masters in Design Thinking
Distant Learning, USA

Rochester Institute of Technology — *Aug. 2021 - Nov 2023*

- A program comprising of **04x graduate level courses** including: Design Thinking Fundamentals, Understanding the problem, Ideation, Iteration and Communication, and Prototyping & User Testing

Micro Masters in Business: Data, Insights and Analytics
Distant Learning, USA

University of Wisconsin, Madison — *Aug. 2022 - May 2023*

- A program comprising of **03x graduate level courses** including: Statistics Using Python, SQL Fundamentals and Data Visualization & Cloud Technologies

Micro Masters in Statistics and Data Science
Distant Learning, USA

Massachusetts Institute of Technology — *Aug. 2019 - Dec. 2023*

- A program comprising of **05x graduate level courses** including: Probability ,Machine Learning with Python, Fundamentals of Statistics, Data Analysis: Statistical Modeling & Computation in Applications and Capstone Exam in Statistics & Data Science

B.S in Aerospace Engineering
On-Campus, Pakistan

Institute of Space Technology — *Sep. 2013 - Aug 2017*

- **CGPA:** 3.69/4.00
- **Honors: Salutatorian** | **Cum-Laude** | **Dean's Honors List**
- **Thesis:** Design & Development of Test Cell for Estimation of Thrust in Small Turbo-Fan Engine

Skills

Category	Skill	Level	Skill	Level	Skill	Level	Skill	Level
Data Science	Python	●●●●○	R-Studio	●●●●◐	SQL	●●●●○	MATLAB	●●●●◐
	Jupyter	●●●●○	Keras	●●●●○	TensorFlow	●●●◐○	Scikit	●●●●○
	Pandas	●●●●○	Numpy	●●●●◐	DragonFly	●●●◐○	PySpark	●●●◐○
Data Analysis	Tableau	●●●◐○	Power BI	●●●●○	MiniTab	●●●●○	SPSS	●●●●○
	Excel	●●●●○	Weka	●●●●◐	Looker	●●●●○	Stata	●●●○○
Cloud Architecture	GCP	●●●◐○	Azure	●●●●○	AWS	●●●◐○	IBM	●●●●○
Productivity	MS Office	●●●●◐	GSuite	●●●●○	Latex	●●●◐○	GitHub	●●●●○
	Prezi	●●●●○	Pages	●●●●◐	Keynote	●●●●◐	Numbers	●●●●◐

Courses & Certifications

✱ **Professional Certificate** titled **Google Data Analytics** by *Google & Coursera* *View*
A program consisting of **08** courses, approximately takes **31** weeks to complete

✱ **Professional Certificate** titled **Google Project Management** by *Google & Coursera* *View*
A program consisting of **06** courses, approximately takes **27** weeks to complete

✱ **Professional Certificate** titled **IBM Data Science** by *IBM & Coursera* *View*
A program consisting of **10** courses, approximately takes **15** weeks to complete

✱ **Specialization** titled **Reinforcement Learning** by *University of Alberta & Coursera* *View*
A program consisting of **04** courses, approximately takes **18** weeks to complete

✱ **Specialization** titled **Deep Learning** by *Deeplearning.AI & Coursera* *View*
A program consisting of **05** courses, approximately takes **17** weeks to complete

✱ **Specialization** titled **Natural Language Processing** by *DeepLearning.AI & Coursera* *View*
A program consisting of **04** courses, approximately takes **16** weeks to complete

✱ **Nano degree** titled **AI Programming with Python** by *Udacity* *View*
A program consisting of **05** courses, approximately takes **12** weeks to complete

✱ **Developer Certification** titled **Data Analysis with Python** by *FreeCodeCamp* *View*
A program consisting of **12** courses, approximately takes **30** weeks to complete

✱ **Career Track** titled **Data Scientist** by *365 DataScience* *View*
A program consisting of **10** courses, approximately takes **20** weeks to complete

✱ **Expert Track** titled **Data Science Fundamentals on Microsoft Azure** by *CloudSwyft Global Systems, Inc. & Microsoft* *View*
A program consisting of **06** courses, approximately takes **18** weeks to complete

Projects

</> **Bob Strategist** *i13 ventures*
A project including creating the strategist using LLMs enabling entrepreneurs to ideate their ideas, check their feasibility and help them strategize them for different variety of markets.
Large Language Models , Python , NLP , Generative AI , Explainable AI

</> **Sandy-Your Financial Advisor** *i13 ventures*
A project combining generative AI with explainable AI to create an aid to the financial experts, helping them with key decisions regarding micro and macro savings.
Large Language Models , Python , Financial Advisory , Generative AI , Explainable AI , Conventional ML

</> **AI-based Fuel Estimation using DNNs** *NESCOM*
An AI based SMART Fuel Consumption predictor using aircraft's flight dataset of various missions. The project effectively reduced the error rate by 200% as compared to crude estimation
Aerospace , DNN , Prediction , Regression , Engineering Data

`</>` Automatic Target Recognition in Live Video Feed *NESCOM*

A project of incorporating ATR in Wireless Communication system in real-time.

Embedded Systems , Python , LabView , Computer Vision , Real-time Analysis

`</>` Automatic Aircraft Analytical Tester *NESCOM*

A project of developing a real-time tester to perform pre-flight checks in the UAS prior to takeoff in an automated function.

Embedded Systems , MATLAB , LabView , HILS , Analytics

`</>` AI-Mosiqaar: Where ML meets music *Deeplearning.ai*

A project of generating Jazz music using the dataset of all legacy jazz music legends.

GANs , RNNs , N-gram Models , Transformers , Music Generation

`</>` AI-Shyr: Where ML meets poetry *View*

A series of NLP codes written to create awesome poetries in English & Urdu (native language of Pakistan) using N-gram, LSTM & Transformers

NLP , LSTM , N-gram Models , Transformers , Text Generation

Honors & Awards

INTERNATIONAL

2023	**Fellow of Data Science**, IDSS	*MIT*
2023	**Excellence Fellow for Climate Change**, Campus France	*France*
2022	**Forward Fellow**, McKinsey Forward Foundation	*McKinsey*
2022	**One-League Fellow**, Innovation and Entrepreneurship Program	*One-League*
2022	**AWS Scholarship Winner**, AWS ML Engineering Program	*Udacity*
2022	**Completed with Honors**, Applied Data Science Lab	*WQU*
2021	**FutureLearn Award**, Thriving in the Digital Workplace	*University of Leeds*
2021	**FutureLearn Award**, Solving Problems with Technology	*University of Leeds*
2020	**Magna Cum Laude**, M.S in Advanced Data Analytics	*Georgia Tech*
2019	**Magna Cum Laude**, M.S in Aerospace Engineering	*Georgia Tech*
2016	**Intern of the Year**, Summer Internship Program	*CERN*
2015	**Bronze Medal**, Asian Science Camp	*Thailand*

DOMESTIC

2016	**National Champion**, Microsoft Office Specialist National Championship	*Mircosoft*
2017	**Cum Laude**, Bachelors in Aerospace Engineering	*IST, Pakistan*
2017	**Outstanding Talent Award**, Bachelors in Aerospace Engineering	*IST, Pakistan*
2017	**International Participation**, Bachelors in Aerospace Engineering	*IST, Pakistan*
2015	**Runner Up**, Pakathon	*IST, Pakistan*

Volunteer Work & Participation

2017-2023	**Facilitator**, Space Summer School	*IST, Islamabad*
2017-2023	**Adjudicator**, World Space Week	*IST, Islamabad*
2021	**Keynote Speaker**, 7th International Conference on Aerospace Science & Engineering	*IST, Islamabad*
2019	**Keynote Speaker**, 6th International Conference on Aerospace Science & Engineering	*IST, Islamabad*
2017	**Keynote Speaker**, 5th International Conference on Aerospace Science & Engineering	*IST, Islamabad*