

# HAMMAD ALI KHAN

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## EDUCATION

**BS (COMPUTER SCIENCE), 2011-2015**  
FAST-NUCES, KARACHI

**INTERMEDIATE (PRE-ENGINEERING), 2009-2011**  
COMMECS INSTITUTE OF BUSINESS AND  
EMERGING SCIENCES

**MATRICULATION (SCIENCE), 2007-2009**  
HAMDARD PUBLIC SCHOOL

## SKILLS

**Programming Languages:** Python, JavaScript, JAVA, C/C++, C#, R, Scala, GO, RUST

**Framework/Stack Web:** Ruby on Rails, Flask, Django, Express, OpenCV

**Big Data:** Hadoop, Spark, Kafka, Flume, ZooKeeper, Elastic Search (ELK)

**Databases:** SQL/PLSQL, ER/Schema Designing, MongoDB, Postgres, InfluxDB, Cassandra

**Cloud:** AWS (EC2, Lambda, Step Functions, ElasticCache(Redis), Cloudwatch(Metrics, Log ingestion, alarms), SNS, SQS, Kafka, IAM, Route53, S3 storage, RDS database, Dynamodb database, API Gateway, VPC, EBS Elastic Beanstalk web deployment, EMR Elastic Map Reduce for big data processing, IoT Core, Greengrass), Predix (Timeseries service), Google

**Courses:** Design and Analysis of algorithm, Computer network, Artificial intelligence, High performance computing, Network security, Design patterns

## EXPERIENCE

**November 2020 - Present**

IoT Startup (Owner)

### Responsibilities

Building a product for central monitoring system for customer sites (Energy, Textile, Manufacturing, Fleet, etc). This product will provide client business insights, real-time escalations, forecasting, predictive maintenance, and much more from their high-velocity sensor data, at their fingertips. As an owner, I work on business development, client dealing, feature engineering, design, and team coordination for implementation.

## **November 2020 - Present**

EIX (Enterprise Integration Experts)

### **Job Responsibilities**

Working as Senior Software Engineer deployed on the product (Tenovos) which is used as a DAM(Digital Asset Management deployed on AWS) by some of the top companies like Amazon Fuse, Amazon Ring, Google Pantry, Netflix, Twitch, Canadian Tire Corporation to name a few. My day-to-day work includes working on new features, research coordinating with the team, providing code knowledge and reviews. Working on an exciting stack of multiple Amazon Services like Aurora, Redshift, Quick Sight, ECS, etc to build a multi-tenant distributed system.

## **October 2019 - October 2020**

REON Energies (Dawood Hercules Group), Software Technical Lead

### **Job Responsibilities**

As a technical lead working on project named SPARK dealing with two different sectors mentioned as

- CNI (Commercial and Industrial)
- Telco (Telecommunication)

CNI are solar fields consisting of different components and sensory data (Inverter, Solar Panel etc), my is in of Data Engineer, setting up infrastructure pipeline hosted on AWS. Providing detail analytics and business insights to customer for their solar fields such as

- Production
- Rate of decay for electronic component
- Forecasting
- Cost saved etc

Telco on the other hand is more versatile in terms of use cases, these are small sites across Pakistan and monitored by different teams of Enfrashare (Sub group of Engro). Data is being transmitted by edge to our Serverless Infrastructure. All this data is being processed and provided with detail reports to customer:

- Fuel Theft from Generator
- Battery decay and predicted load outages
- Anomaly detection
- Alarms

Both CNI and Telco have same pipeline with different use cases, the data is ingested to ElasticSearch, which is used as main data store for derived and real time reports, running ML models, Health Indexing etc. ElasticCache is used to serve heavy traffic, serving real time parameters, alarms(events) etc.

## **October 2018 - October 2019**

Zaavya, Sr. Software Engineer

### **Job Responsibilities**

Working on a project of MDM (Master Data Management) for USA based client. My responsibilities include

Provide team with knowledge of advance cloud computing for big data processing, architecture designing, serverless design pattern for consuming, transforming and run data analytics to gain meaning full insights of data. As a start-up working on different technologies provide me with diversity of knowledge particularly for cloud. Other responsibilities include set-up ingestion process for graph databases, retry mechanism for Pub—Sub failure, logging, etc.

## **March 2017 - October 2018**

Inbox Technologies, Trainee Technical Consultant

### **Job Responsibilities**

- Work in department of DIH (Digital Intelligence Hub) creating smart product using AI, Machine and Deep Learning.
- Applying latest technologies in field of data engineering retrieving, transforming, cleaning and providing deep insights of complex data using stack provided by Cloudera.
- Worked on facial recognition an in-house build for getting stream from NVR (Network Video Recorder) and training a model for recognition and detection, for attendance management and count.
- Extensive work on AWS cloud services, familiarity with cloud infrastructure, provide me an edge to build, prototype and deploy different architecture with diverse technological stack.
- As a team lead I am having people across cities managing, reporting, distribution of work load and keeping team trained with latest technological trends is one of my core skills.

### **Projects**

- Worked with Engro Polymer manufacturing for HCL column recommendations. Getting more than two hundred variables, pushing it to predix cloud, applying cleaning for data sparsity and transformation and finally utilizing it to train a model.
- Working with REON Solar Energy providers for providing them real data analytics. Getting data for inverter, grid, generator and weather, pushing it to predix cloud time-series. Finally, will be applying machine learning for cost optimization on solar panel maintenance based on temperature, dust and solar output.

## **February 2016 - February 2017**

10Pearls Pvt. Ltd., Game Developer

### **Job Responsibilities**

- Develop and design games both 3d and 2d on unity3d cross platform iOS and Android.
  - Responsible for writing backend logic for games mostly 2d.
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### **RESEARCH INTEREST**

- Eager to work on latest technologies based on machine and deep learning with endless implications on churn detection, predictive analysis and computer vision.
- Opportunities to work on GPUs clusters for high performance computing, developing robust algorithms.
- Work in field of artificial intelligence focusing industries like manufacturing, health, internet of things, energy sectors to help develop smart system that optimize cost and maintenance.
- Work in field of computer vision to detect, recognize and track to help improve security for smart cities.