

Khalid Usman

MACHINE LEARNING ENGINEER

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A machine learning engineer passionate about solving real-world problems, with previous experience in biomedical image processing, computer vision, and natural language processing. I have worked on a variety of projects in machine learning & deep learning using Python, R, and MATLAB. Moreover, I am a cooperative team member with great communication skills.

Skills

Python	●●●●●	Objective-C	●●●●●	MATLAB	●●●●●
Machine Learning	●●●●●	Swift	●●●●●	R	●●●●●
Deep Learning	●●●●●	C++	●●●●●	Java	●●●●●

Education

National University of Science & Technology (NUST)

Islamabad, Pakistan

MASTER OF SCIENCE IN COMPUTER SCIENCE, GPA: 3.2/4.0

Sep 2012 - Aug 2015

- **Brain Tumor Segmentation from MRI Scans Using Machine Learning Techniques (MS-Thesis)**
- **Description** Dataset is provided by MICCAI BraTS and then I performed pre-processing steps on the dataset by taking bounding box of original images. Then I extracted different types of features (intensity values, intensity differences, neighborhood and wavelet decomposition). Extracted features are provided to the classifiers to classify the tumor into five different labels. Random Forest is used as classifier and Dice as similarity measure co-efficient.
- **Link** <https://doi.org/10.1007/s10044-017-0597-8>
- **Technologies** MATLAB, Machine Learning (Supervised) Algorithms, Image Processing

National University of Computer & Emerging Sciences (FAST)

Islamabad, Pakistan

BACHELOR OF SCIENCE IN COMPUTER SCIENCE, GPA: 3.01/4.0

Aug 2007 - Aug 2011

- **3D Visualization of Physical World (Final Year Project) (BS-Final Project)**
- **Description** A Project in which real environment is observed and then viewed in the computer world. Developing and exploring the virtual and dynamic environment supported with rigid objects, chains, gravity, friction, springs and hinges to show the whole phenomenon on the drawing board.
- **Technologies** OpenGL, C++

Experience

State Bank of Pakistan.

Karachi, Pakistan

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Aug 2022 - Present

- Explored data analysis techniques for a variety of projects and designed dashboards.
- Explored machine/deep learning approaches for various datasets.
- Working on an instant payment gateway i.e. Raast.
- Handling large-scale financial datasets provided by commercial banks.

MAINSRING TECHNOLOGY PTE. LTD.

Remote, Singapore

MACHINE LEARNING ENGINEER

Aug 2021 - March 2022

- Excellent Written & Verbal Communication with international team.
- Explored machine/deep learning approaches for various datasets

CARECLOUD - MTBC

Rawalpindi, Pakistan

SR. IOS DEVELOPER

Oct 2021 - Aug 2022

- Excellent Written & Verbal Communication with international team.
- Directly communicate to Team Lead to design iOS applications.

XORLOGICS

MACHINE LEARNING ENGINEER

Islamabad, Pakistan

Nov 2014 - Jan 2018

- Continuously communicated with international (**Belgium**) clients).
- Developed a machine learning based recommendation system.
- Lead junior developers to design iOS applications.
- Solely worked on a machine learning project and developed an iOS application for it.

COEUS GmbH

iOS DEVELOPER

Lahore, Pakistan

Aug 2011 - Sep 2012

- Communicate with international (**Germany**) clients for requirements gathering.
- Develop & design iOS applications under the supervision of senior developers.

Machine / Deep Learning Projects

Raast - Instant Payment Gateway (IPS)

- I have worked on a rich dataset i.e. Raast datasets, where I analyzed the data and designed different dashboards which exhibit the moving averages, daily transnational volume and values, and disputes that occurs during the failures of transactions.
- Python, Dash, Plotly

DFS Market Assessment

- I have collected large-scale data from all banks in Pakistan and analyzed different dimensions e.g. From CNIC, I extracted the locations and gender information and then demonstrated how many people(male vs female) using each channel (mobile/internet banking, debit/credit card, and conventional banking) belong to which area of the country.
- Python, Dash, CNIC to Gender/Location, Oracle

Bilingual (English and Chinese) OCR (Optical Character Recognition) for Receipts

- I developed an application that read receipts in various format and identify the total amount, receipt number, shop name, shop address/location and date of shopping. I used paddleOCR and Spacy to read and recognize different entities. Finally, I deployed the model at Amazon Web Services (AWS).
- Python, OCR, PaddleOCR, SpacyNER, FlaskAPI, AWS, OpenCV

Predict Weather Conditions for Autonomous Vehicle

- I implemented a deep learning model that can predict the weather condition, either it's Foggy, Sunny, Rainy or Cloudy etc. Moreover, I added branches to the base model and predict derived classed, e.g. if Foggy then what percentage either 25%, 75%, 99% and same for other classes. I calculated the accuracy separately for each branch got more than 95% for each branching model.
- Python, Deep Learning, Custom Image Generator, Transfer Learning, OpenCV

Products Retrieval System

- I used a dataset from a private organization to build a products retrieval system using Deep Learning and Natural Language Processing. I processed dataset and trained model on historical queries. In testing phase, user input a query and retrieve related products.
- Python, Transformers, BERT, PECOS

Stock Price Prediction

- A Chinese organization provided us dataset of stock price. Where, I initially used Supervised Machine Learning algorithms to predict the closing price of next day. Then, I used Deep Learning algorithm (LSTM) on the same dataset and achieved better results. Moreover, I mapped the closing price into categories i.e., either increasing, decreasing or neutral.
- Python, LSTM

BrightOwl - Job/Resume Recommendation System

- A Belgium based organization provided dataset, containing resumes and job descriptions. I explored variety of Machine Learning & Natural Language Processing techniques on to extract key-words and key-phrases. Then, I applied Stanford Name Entity Recognition to mark location, skills etc leading to annotation. Finally, I trained word2vec model and recommended most related jobs to developers and vice-versa.
- Python, JAVA, NER, RAKE, Word2Vec, Glove

Achievements

Hafiz-e-Quran

MEMORIZED THE WHOLE HOLY BOOK

Jul 2011

Outreach Scholarship

MERIT BASED SCHOLARSHIP THROUGHOUT BS AND PH.D. FUNDED BY ICT & RDF, PAKISTAN & CHINESE GOVERNMENT

Sep 2007 - 2011 & Sep 2017 - 2021