

# Muhammad Ramzan

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Machine Learning Engineer

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## SKILLS

<b>Machine Learning</b>	Machine Learning (Regression, Classification, Clustering), Libraries (NumPy, Pandas, Matplotlib, Seaborn, SciPy, Scrapy, Scikit-learn), Programming Languages (Python, C, C++)
<b>Deep Learning</b>	Deep Learning (TensorFlow, Keras, PyTorch)
<b>Generative AI</b>	Generative AI (OpenAI API, LangChain API), Large Language Models (LLMs), Prompt Engineering

## EDUCATION

<b>Machine Learning Engineer</b> , Coursera	Jan 2023 — Present
<b>B.S. Software Engineering</b> , Lahore Garrison University, Pakistan	Oct 2019 — Dropout

## CERTIFICATES

<b>Mathematics for Machine Learning and Data Science Specialization</b> Jan 3, 2024 <ul style="list-style-type: none"><li>A deep understanding of the math that makes machine learning algorithms work.</li><li>Statistical techniques that empower me to get more out of my data analysis.</li><li>Fundamental skills that employers desire, helping me ace machine learning interview questions and land my dream job.</li></ul>	<b>Coursera Certificate</b> Instructor: Magdalena Bouza
<b>Machine Learning Specialization</b> Feb 10, 2024 <ul style="list-style-type: none"><li>Build Machine Learning models with NumPy and scikit-learn, build and train supervised models for prediction and binary classification task(linear, logistic regression). Build and train a neural network with TensorFlow to perform multi-class classification.</li><li>Build and use decision trees and the tree ensemble methods. Apply best practices for the Machine Learning development.</li><li>Use unsupervised learning techniques for unsupervised learning including clustering and anomaly detection methods.</li><li>Build recommender systems with a collaborative filtering approach and a content-based deep learning method.</li></ul>	<b>Coursera Certificate</b> Instructor: Andrew Ng
<b>Deep Learning Specialization</b> Jan 26, 2024 <ul style="list-style-type: none"><li>Build and train deep artificial neural networks (ANNs), study the foundational concept of neural networks and deep learning, identify key architecture parameters, implement vectorized neural networks and apply deep learning to applications.</li><li>Train test sets, analyze variance for Deep Learning applications, use standard techniques and optimization algorithms, for deep learning and machine learning applications, and build artificial neural networks (ANNs) in TensorFlow.</li><li>Build a convolutional neural network (CNN), and apply it to detection and recognition tasks, use neural style transfer to generate art, and apply algorithms to image and video data for building the deep learning applications.</li><li>Build and train recurrent neural network (RNNs), work with Natural language processing (NLP) and the Word Embeddings, and Transformer models to perform Named Entity Recognition (NER) and Question Answering.</li></ul>	<b>Coursera Certificate</b> Instructor: Andrew Ng

## PROJECTS

<b>Next Word Prediction Model</b> May 24, 2024 <p>In this project, I build a Next Word Prediction Model using Deep Learning and the important Python libraries like tensorflow.</p> <ul style="list-style-type: none"><li>Project Steps: Importing the necessary Python libraries and the dataset. tokenize the text to create a sequence of words.</li><li>Create input-output pairs by splitting the text into sequences of tokens and forming n-grams from the sequences.</li><li>Pad the input sequences to have equal length. split the sequences into input and output.</li><li>Convert the output to one-hot encode vectors. build a neural network architecture to train the model.</li><li>Compile and train the model. Once the code is executed, now I generate the next word predictions using our model.</li></ul>	<b>NLP</b> GitHub Link
<b>Text Generation Model</b> May 25, 2024 <p>In this project, I build a Text Generation Model using Natural Language Processing.</p> <ul style="list-style-type: none"><li>Project Steps: Importing packages and dataset. convert the text to sequences of integers and also create sequences for training.</li><li>Split input and target text. shuffle the dataset and pack it into training batches. RNN model with a few layers to build the model.</li><li>Choose an optimizer and a loss function to compile the model. train the model. Our final step is just generate the text.</li></ul>	<b>NLP</b> GitHub Link
<b>Image Generation Model</b> May 26, 2024 <p>In this project, I generate novel images based on a text prompt using the KerasCV implementation of Stable Diffusion model.</p> <ul style="list-style-type: none"><li>Stable Diffusion is a powerful, open-source text-to-image generation model. While there multiple open-source implementations that allow you to easily create images from textual prompts, KerasCV's offers a few distinct advantages.</li></ul>	<b>LLMs</b> GitHub Link