

# USMAN SALMAN

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## ABOUT

Expertise in Machine Learning, AWS, Python, and Data Science, skilled in computer vision and deep learning, and certified in project management, showcasing a diverse portfolio of innovative solutions.

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## PROFESSIONAL EXPERIENCE

- Tech Lead (Computer Vision)** – TogTog Pvt. Ltd (Jan 2023 – May 2023)
- Remote job based at Bangkok City, Thailand
  - Lead computer vision & machine learning teams
  - Developing mobile app for ViTON Technology
- Computer Vision R&D Engineer** – TogTog Pvt. Ltd (Dec 2022 – Jan 2023)
- Remote job based at Bangkok City, Thailand
  - Research about ViTON Technology
- Computer Vision Intern** – Bleed AI Pvt. Ltd (Dec 2022 – Jan 2023)
- Remote Internship based at Karachi, Pakistan
  - Project Management using Trello & Clockify
  - OCR-Recognition and NLP
- Artificial Intelligence Intern** – NeoDocto Services Pvt. Ltd (Dec 2021 – May 2022)
- Remote internship based at USA.
  - Designed Chatbots
  - Provide Automated solutions to clients.
- Internet of Things Intern** – Chirp Technologies Pvt. Ltd (Jan 2022 – Feb 2022)
- On-site at Arfa Software Technology Park, Lahore
  - Explored about LoRa and LoRaWAN
  - Performed experiments on LoRa and LoRaWAN
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## EDUCATION

- Bachelor of Science (Electrical Engineering)** – Information Technology University (2019-23)
- **Modules:** Data Structures, Numerical Analysis, Applied Machine Learning, Operating Systems, Industrial Internet of Things, and Embedded Systems Design.
- Faculty of Science (Pre-Engineering)** – Unique Boys College (2017-19)
- **Modules:** Mathematics and Physics
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## FINAL YEAR PROJECT

### Title: General Parking System using MLOps on AWS:

Our project is motivated by the need for a go-to parking system that is easy to implement, self-automated, and reliable. By leveraging Machine Learning Operation techniques, we have developed an automated parking system powered by Computer Vision and Optical Character Recognition. It accurately detects vehicles and reads license plate numbers. The project was supervised by Dr. Ali Ahmed, associate professor at ITU.

**Tools:** AWS, Ubuntu, Dockers, APIs, Flask, Roboflow

**Platforms:** AWS, Ubuntu, Windows (PowerShell)

**Models:** YOLOv5s, EasyOCR

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## PROJECTS

### Hospital Management System

- **Tools:** Microsoft Visual Studio
- Based on concepts of O.O.P. and Data Structures

### **Face Detection, Recognition & Verification**

- **Tools:** Google Colab Notebook, Kaggle Dataset, Neural Networks
- Researched different Neural Networks
- Created algorithm to detect, recognize and verify single person.

### **Hand-written Digit Recognition**

- **Tools:** Google Colab Notebook, Kaggle Dataset, Deep-CNN
- Evaluated and analyzed pre-existing algorithms for digit recognition.
- Compiled best-fit algorithm for hand-written digit recognition.

### **Anomaly Detection in Server Computers**

- **Tools:** Google Colab Notebook, Kaggle Datasets
- Implementation of Anomaly Detection Algorithm using Gaussian Model to detect anomalous behavior in server computers.

### **Lunar Lander with Deep-QL**

- **Tools:** Google Colab Notebook, RL environment
- Trained an agent to land safely on a landing pad on the surface of moon using Deep Q-Learning.

### **Zip/Unzip using Huffman Encoding with Multithreading**

- **Tools:** Ubuntu
- Implemented Zip and Unzip programs using Huffman encoding scheme with multithreading.

### **word2vec using NLP:**

- **Tools:** VSCode, word2vec model
- Implemented word2vec model and trained word vectors using stochastic gradient descent (SGD), achieving efficient vector representations of words.
- Successfully applied sentiment analysis on the Stanford Sentiment Treebank (SST) dataset.

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## **CERTIFICATES**

- Python Basics (**University of Michigan**)
- Crash Course on Python (**Google**)
- Machine Learning Foundations (**AWS Academy**)
- Unsupervised Learning, Recommenders, Reinforcement Learning (**DeepLearning.AI**)
- AWS Cloud Foundations (**AWS Academy**)
- AWS Data Analytics (**AWS Academy**)
- Machine Learning Modeling Pipelines in Production (**DeepLearning.AI**)
- Optimize ML Models & Deploy Human-in-the-loop Pipeline (**DeepLearning.AI**)
- Google Data Analytics Professional Certificate (**Google**)
- Foundations of Project Management (**Google**)
- Agile Project Management with Jira Cloud (**Atlassian**)
- Intelligent Control of Connected & Automated Vehicles (**IEEE**)
- Natural Language Processing with Deep Learning (**Stanford University**)
- Natural Language Processing (**Hugging Face**)

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## **SKILLS**

**ML Models:** VGGFace, VGGNet, SVMs, MGD, DQN, YOLOv5s, EasyOCR, VGG16, BERT, RoBERTa, Transformer XL, T5, mBART, DistilBERT, GPT-3, and trOCR.

**Tools:** AWS, Ubuntu, APIs, Docker, Roboflow, Google Colab Notebook, RL environment, Kaggle, RASA.

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## **REFERENCES**

References will be furnished on demand.