Ali Khalid Ali Khalid

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Summary

Robotic Software Engineer with a strong foundation in computer science and extensive experience in AI and Machine Learning. Proficient in C++ and Python, with solid knowledge of algorithms, data structures, and the complete software development life cycle. Skilled in designing and building intelligent robotic systems, focusing on real-time performance, system integration, and high-quality, scalable solutions. Experienced in debugging, project management, and system analysis. Passionate about creating innovative technologies that drive automation, improve user experience, and generate real-world impact. Actively seeking new opportunities to apply and expand these skills in cutting-edge robotics and AI-driven environments.

Experience

Data Scientist | 02/2025 - Present | Saudi Arabia | Remote

- Streamlined data collection processes to reduce analysis errors and improve data quality.
- Automated repetitive workflows using Python and R, significantly reducing processing time.
- Designed and deployed forecasting models to boost operational efficiency and productivity.
- Analyzed complex datasets using advanced querying, visualization, and analytics tools.
- Researched and evaluated emerging technologies for strategic adoption.
- Translated business requirements into effective, data-driven solutions.
- Optimized data pipelines and resource allocation strategies for computational efficiency.
- Led end-to-end engineering efforts to improve machine learning model performance.
- Assessed data accuracy and refined analytical techniques to ensure reliability.

Machine Learning Developer | 01/2024 - Present | Freelancer | Remote

- Applied feature engineering techniques to preprocess and enhance raw datasets.
- Collaborated with cross-functional teams to design and implement AI-driven solutions.
- Contributed to open-source machine learning tools and frameworks.
- Continuously monitored industry trends to stay updated with the latest advancements in ML.

Deep Learning | 01/2025 - 02/2025 | Volunteers Work | Cairo

- Built deep learning models using TensorFlow and Keras for computer vision tasks.
- Designed robust neural networks for image recognition with strong generalization across datasets.
- Integrated advanced deep learning techniques into existing architectures to boost performance.
- Applied domain-specific strategies to enhance model adaptability.
- Introduced reinforcement learning concepts to broaden team expertise and experimentation.

Python Developer | 03/2023 - 02/2025 | Outlier | Remote

- Generated workflow reports to evaluate and validate proposed changes.
- Optimized Python code to enhance application performance and reduce latency.
- Ensured timely and high-quality product delivery through effective project management.
- Automated repetitive tasks using Python scripts to improve operational efficiency.
- Independently designed, developed, and tested robust Python applications.
- Collaborated with cross-functional teams to deliver scalable and maintainable software solutions.

Skills

Python Programming, C++ Programming, Code Writing, API Integration, SQL Databases, Embedded Systems Programming, Data Structures and Algorithms, ROS2 (Robot Operating System), Machine Learning, Deep Learning, Neural Networks, Reinforcement Learning, Natural Language Processing (NLP), Computer Vision, XGBoost, Scikit-learn, Data Mining, Big Data Analytics, Strong Mathematical Skills, Statistical Analysis, Collaborative Teamwork

Education

Mechatronics Engineering | Egypt Japan University of Science and Technology | 02/2027 | Burg-Elarab

B.Sc. in Mechatronics Engineering — Cairo, Egypt
GPA: 3.53
Relevant Coursework: Automatic Control I, Mechatronics

Languages

English, Arabic

Certificates

Sixty-eighth Place ECPC/ICPC, 07/2024, Egypt FWD, 01/2021, Uneeq internship AI, 04/2025, Applied Deep Learning Mahara Tech ITI, 04/2025, Associate Data Science in Python DataCamp, 11/2024, Machine Learning Scientist in Python DataCamp, 04/2025, Deep Learning with Pytorch Mahara Tech ITI, 05/2025, Tensorflow Deep Learning, 05/2025, IBM Data Science Coursera, 02/2025, Reinforcement Learning DataCamp

projects

1. Personal Chatbot with API Integration
Technologies: Python, FastAPI, REST APIs
Developed a chatbot using Google APIs for real-time interaction. Focused on integrating NLP capabilities and deploying it with minimal latency for smooth conversational flow.

2. Document Q&A System
Technologies: Python, NLP, Transformers
Built a document question-answering system that extracts answers from uploaded text. Used language models and context extraction techniques for accurate responses.

3. Digit Classification
Technologies: Python, TensorFlow, CNN, Jupyter
Trained a convolutional neural network to classify handwritten digits (MNIST). Focused on model accuracy and loss minimization.

4. Chatbot (NLP-based)
Technologies: Python, NLP, Machine Learning
Created a rule-based and intent-classified chatbot using NLP preprocessing and vectorization techniques to handle simple user queries.

5. Color Classification
Technologies: Python, OpenCV, Machine Learning
Trained a classifier to identify and label colors from images using OpenCV and color space conversions.

6. Face Mask Detection
Technologies: Python, CNN, OpenCV
Built a model to detect whether individuals are wearing face masks in real-time using camera input and trained CNNs.

7. Diabetes Prediction
Technologies: Python, Pandas, Sklearn, Logistic Regression
Developed a supervised learning model to predict diabetes based on medical features from a dataset. Achieved high accuracy with feature selection.

8. Loan Prediction
Technologies: Python, Sklearn, Logistic Regression, Decision Trees
Built a classification model to predict loan approval status based on applicant data. Applied data cleaning, EDA, and multiple models for comparison.

9. Cubic Spline Path Planning for Robot
Technologies: Python, Robotics, Spline Interpolation

Implemented a smooth path planner for robots using cubic spline interpolation. Useful for trajectory generation in dynamic environments.

10. Housing Price Prediction
Technologies: Python, Linear Regression, Data Visualization
Developed a regression model to predict housing prices. Focused on feature engineering and exploratory data analysis.

11. Mall Customer Segmentation
Technologies: Python, K-Means, Clustering
Segmented customers using unsupervised learning based on purchasing behavior. Visualized clusters and provided business insights.

12. Titanic Survival Prediction
Technologies: Python, Logistic Regression, SVM
Used classification models to predict survival on the Titanic dataset. Focused on data preprocessing, feature selection, and model comparison.

Contact Information

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