Mostafa Abla

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SUMMARY

Machine Learning Engineer with 10 years of experience in software development and data science, primarily within Germany's tech industry. Expertise in implementing and deploying machine learning models to solve complex challenges and improve performance. Possesses a strong command of MLOps and cloud services, with hands-on experience contributing to building a company's cloud data infrastructure.

EXPERIENCE

Quest One, Hamburg, Germany   Nov 2022 – July 2025
Machine Learning Engineer

- Implemented a Fingerprint Evaluation Model to automatically evaluate the performance of different designs of customer hydrogen stacks.
- Developed a chatbot leveraging Large Language Models and RAG to efficiently answer employee questions using company documents, enhancing knowledge accessibility and operational efficiency.
- Spearheaded the collection and processing of customer Machine Data and played a key role in migrating customer Machine Data to the new Azure Cloud Solution, enhancing data accessibility and scalability.
- Coordinated the "Data Intelligence and Software" group of 6 members, implementing efficient task scheduling, enhancing cross-team coordination, resulting in improved team productivity.

KUKA Robotics, Augsburg, Germany   Oct 2017 – Oct 2022
Software Developer

- Led a software team to deliver 2 key autonomous mobile robot projects for the companies Continental and Heller.
- Executed end-to-end client communication, from requirements gathering and software architecture design to factory acceptance tests, achieving over 90% client satisfaction.
- Built mobile robots applications in Java for over 6 completed projects for customers in Germany, Taiwan and Denmark.
- Managed the release process for new software and updates, ensuring high-quality standards for each release, resulting in a reduction of bugs in new releases by over 60%.

Bertrandt Group, Munich, Germany   Oct 2016 – Sep 2017
Software Developer

- Developed software for the parking module of BMW's 7th-generation driving assistance system using an agile approach in Simulink and C.
- Performed comprehensive testing, including test case creation, code coverage optimization (exceeding 98%), and static code analysis, ensuring the reliability and safety of the parking module.

German University in Cairo, Cairo, Egypt   Sep 2012 – Aug 2013
Lab Instructor

- Designed and instructed PLC programming labs and mentored 3 bachelor's projects.

EDUCATION

Hamburg University of Technology, Hamburg, Germany   Sep 2013 – Nov 2016
Master of Science; Mechatronics
Master thesis: Designed and programmed a reusable pick-and-place strategy for industrial mobile robots.

German University in Cairo, Cairo, Egypt   Oct 2007 – Jul 2012
Bachelor of Science in Engineering; Major in Mechatronics

SKILLS

- **Programming Languages:** Python, Java, R, C/C++
- **Cloud Services:** AWS, Azure, Databricks
- **Tools & Frameworks:** TensorFlow, Power BI, Docker, SQL, Git, Azure DevOps, JIRA
- **Machine Learning:** Generative AI, Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), Prompt Engineering, Natural Language Processing (NLP), Computer Vision
- **MLOps/ML Workflows:** Azure Machine Learning Pipelines, AWS SageMaker Pipelines
- **Additional Skills:** Data Visualization, Agile Software Development (SCRUM), Software Architecture

PROJECTS

- **Garbage Classifier:**
  - o Built a machine learning app that classifies household garbage images into 12 distinct categories, enhancing the efficiency of garbage recycling processes.
  - o Collected, sorted and published a comprehensive dataset of images, downloaded over 14,000 times.
  - o Trained the model using TensorFlow, achieving 95% accuracy on the test set, and deployed the model in the cloud using AWS services, including Sagemaker Pipeline, Lambda, API Gateway, and Lightsail.
- **Job Interview Chatbot:**
  - o Created a Chatbot that answers common interview questions with personalized responses.
  - o Supplied the Chatbot with relevant information to ensure accuracy and tailored interactions.

TRAINING & CERTIFICATIONS

- **Deep Learning Specialization (5 courses), coursera.org:** Neural Networks and Deep Learning, Improving Deep Neural Networks, Structuring Machine Learning Projects, Convolutional Neural Networks, Sequence Models
- **Statistics with Python Specialization (3 courses), coursera.org:** Understanding and Visualizing Data with Python, Inferential Statistical Analysis with Python, Fitting Statistical Models to Data with Python

LANGUAGES

- **Arabic:** Native
- **English**: Fluent
- **German**: Fluent

VOLUNTEERING

- Performed translation services for refugees during job interviews and government appointments in Germany (1 year).
- Volunteer teacher in an adult literacy program in Egypt (6 months).