Iyad Elwy

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Summary

Enjoy working on projects at the intersection of **data engineering**, **DevOps**, and **infrastructure**. Interests include **container orchestration**, workflow **automation**, and building efficient, **scalable systems**.

Employment History

Data Engineer (PreMaster Program)
Nov 2024 – Current Date

Bosch GmbH – Renningen, Germany

- Part of the Data and Tooling team for the Interior Sensing Solutions (ISS) project at Bosch
- Managing the lifecycle of Airflow deployments for data workflows
- Working with Kubernetes and Rancher to deploy containerized applications
- Supporting multinational teams with debugging Kubernetes deployments and resources
- Responsible for migrating Kubernetes resources between clusters with different versions
- Managing, renewing, and evaluating TLS certificates for deployments and services
- Introducing and configuring Spark cluster mode for fast and efficient data processing and KPI calculations
- Deploying Databricks Unity Catalog on our on-premises Kubernetes cluster and migrating all tables to the catalog for centralized, governance-compliant data management and access control
- Creating and expanding Helm charts for services and tools
- Writing and debugging Python scripts to extract, process, and load data into our data lake or data warehouse
- Using Azure Cloud as an external identity provider for our RBAC-based tools
- Actively evaluating new methods, tools, and ideas to improve our data infrastructure and developer experience

Data Science Internship
Feb 2024 – Jun 2024 (5 Mo)

Bosch GmbH – Bühl, Germany

- Contributed to the development of predictive time series algorithms to shorten the time-to-market for our product and worked on GenAI use cases
- Implemented ETL pipelines for machine sensor data to ensure a consistent and unified data foundation
- Conducted extensive research using scientific databases to identify state-of-the-art methods
- Used visualization and statistical analysis techniques to assess data integrity and uncover valuable insights
- Developed machine learning and deep learning models trained on machine sensor data
- Used Azure Cloud and Azure OpenAI to modify and test models (LLMs) for performance optimization
- Integrated Azure OpenAI with Microsoft Copilot to develop custom services that boosted the team's daily productivity
- Leveraged Azure Cognitive Services for natural language processing tasks to improve the extraction of insights

Backend Software Engineering Internship
Jun 2023 – Sep 2023 (4 Mo)

Ackoo – Cairo, Egypt

- Developed and implemented data solutions and data models for storing and querying information
- Built ETL pipelines to extract data from various sources, including RESTful APIs, GraphQL APIs, and web scraping
- Improved data quality by implementing a cloud-based data annotation solution using Firebase
- Contributed to the design and implementation of a new data schema
- Implemented unit tests to ensure the reliability of tools and pipelines, with a focus on code coverage
- Conducted code reviews (using Git and GitHub) to improve the quality of the codebase
- Worked professionally with Git and GitHub in an agile development environment

Education

B.Sc. Informatics & Computer Science
April 2020 – Juli 2024 **German International University – Cairo, Egypt**
Major Data Science Minor Software Engineering

German International Abitur April 2010 – Juni 2019
Europa Schule Kairo – Cairo, Egypt
Obtained my German Abitur from Europa Schule Kairo

Achievements & Publications

- Elwy, Iyad, & Sabty, Caroline. "Takween: A comprehensive Arabic collection and annotation tool." Procedia Computer Science 244 (2024): 186-193.

Professional Skills

Software: Python | JavaScript | SQL | Django | Node.js | FastAPI | NextJs | React | Git | Linux | Docker | MongoDB | Airflow | Github Actions

Data: Spark | Pandas | Polars | Pytorch | Scikit-Learn | Data Preprocessing | Data-Pipelining | Visualization | DuckDB | Verständnis von Deep Neural Networks

Infrastructure: Kubernetes | Helm | Understanding of Computer Networks, Databases, System Design, and Software Architecture

Languages: Englisch (Fluent C1) | **German** (Native language level C2)