

SELIM ELBINDARY

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EXPERIENCE

Research Assistant

Fraunhofer IPA

February 2024 – Ongoing Stuttgart, Germany

- Work focused on Safe Human-Robot Collaboration using machine learning
- Worked on generating synthetic datasets using omniverse in order to train LLM models with a focus on safety in warehouses.

Omniverse Ubuntu Python Isaac Sim

Junior Data Scientist

HYVE Technology Consulting

April 2023 – January 2024 Cairo, Egypt

- Worked on Large Language Models including local LLMs (with Ubuntu) and GPT-4, integrating them in projects and building applications and chatbots using Langchain.
- Worked on projects using Prefect to automate workflows.
- Built custom chatbots that use GPT-4 along with vector databases, dashboards and other tools. Focus on improving chatbot agents response time.

Langchain Ubuntu Python LocalLLM Prefect ChromaDB
DuckDB Redis

Wildfire Detection Research

GUC

Oct 2021 – Feb 2022 Cairo, Egypt

- Worked with Dr. Mohammed Salem on CNNs to study, review and work on existing methods and design new ones to detect Wildfires.
- Focus on Wildfire detection in images and videos.
- Designing a lightweight architecture that can detect early stages of wildfires and be used in an easily distributed system.
- Worked on using smoke to detect areas where there are wildfires and incorporating active learning.

Python TensorFlow ImageClassification ImageSegmentation

Data Analytics Trainee

HYVE Technology Consulting

July 2020 – Sep 2020 Cairo, Egypt

- Worked on a dataset on interactions between consumers and customer service that allowed me to find concerns and detect insights.
- Worked using Apache Spark to Extract, Transform and Load (ETL) large datasets. Used PowerBI to visualize and create reports for end-users.
- Learned the basics of Machine Learning using TensorFlow.

Python PowerBI TensorFlow SQL Apache Spark Pandas
Keras

ACHIEVEMENTS



Conference Paper

Presented a conference paper in 2021 at the ICICIS Conference

SKILLS

Programming

- Firm Knowledge

Java Python SQL
NOSQL SpringBoot

- Base Knowledge

JavaScript C++ C#

- Familiar

C Assembly VHDL Prolog

Tools & Frameworks

Linux Git NVIDIA Omniverse ISAAC SIM
Spring Kafka NodeJS React Docker
MongoDB PostgreSQL PowerBI
Figma Quartus Prime

Soft Skills

Time Management Teamwork & Leadership
Communication

LANGUAGES

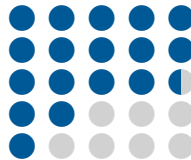
English

Arabic

French

German (A2)

Spanish



EDUCATION

M.S. in Computer Science

Specialization Autonomous Systems

University of Stuttgart

Oct 2023 – Present

B.S. in Computer Science

German University in Cairo (GUC)

Sept 2017 – June 2022

CS1 Junior Teaching Assistant (TA)

GUC

📅 Oct 2019 – Jan 2020

📍 Cairo, Egypt

- Lab instructor for the python CS102 (Introduction to Computer Science) course.
- Supervising 2 weekly labs, explaining concepts, aiding students, supervising quizzes and grading lab assignments.

PUBLICATIONS

👥 Conference Proceedings

- S. Elbindary, D. M. A. Latif, and M. A.-M. Salem, "Satellite imagery road segmentation using a dual network approach with enhancement blocks," in *2021 Tenth International Conference on Intelligent Computing and Information Systems (ICICIS)*, 2021, pp. 80–87. DOI: 10.1109/ICICIS52592.2021.9694133.

PROJECTS

Massively Scalable Application

GUC

📅 Feb 2022 – June 2022

📍 Cairo, Egypt

- Implementing in a team the Piazza website.
- Coded using java spring boot, with NOSQL & SQL databases.
- Used Command Design Pattern with Apache Kafka for message queues and a redis cache.

Spring Boot

MongoDB

SQL

NOSQL

Redis

Java

Kafka

PostgreSQL

Bachelor Thesis on Road Network Extraction using a Deep Learning Model

GUC

📅 Mar 2021 – Aug 2021

📍 Cairo, Egypt

- Designed a CNN consisting of two models to extract road networks from high resolution satellite images from 4 datasets.
- Testing outperformed existing state of the art methods, and a post-processing operation improved results.
- Thesis resulted in a conference paper presented in 2021.

Python

TensorFlow

CNN

Full Stack Development

GUC

📅 Oct 2020 – Jan 2021

📍 Cairo, Egypt

- Group Project focused on creating the GUC staff portal by building the backend using NodeJS and a mongoose database and building a frontend using REACT.

NodeJS

React

MongoDB

Software Engineering

GUC

📅 Feb 2020 – June 2020

📍 Cairo, Egypt

INTERESTS

Back-End Engineering

Machine Learning

Data Science

- Project designing an enhanced version of the GUC system.
- Designed a UX mockup of the system using Figma following a sprint backlog to organize how the team works.

FIGMA

Database Management System (DBMS)

GUC

📅 Feb 2020 – May 2020

📍 Cairo, Egypt

- Built a DBMS using java in a team as part of the DBII course.

JAVA