

Shahd Elmahallawy

+1(951) 237-4785 | selma008@ucr.edu | linkedin.com/shahd-elmahallawy | github.com/ShahdElmahallawy

PROFESSIONAL SUMMARY

PhD student specializing in Artificial Intelligence and spatial data systems. Research involves applying large language models and machine learning techniques to geospatial and multimodal datasets. Seeking roles in AI or generative AI that bridge research insights with scalable real-world innovation.

EDUCATION

University of California, Riverside

PhD Student in Computer Science focusing on Databases, Data Mining, and AI

Riverside, USA

Sep. 2025 – Present

The American University in Cairo

B.Sc. in Computer Engineering, Double Minor in Business and Mathematics

Cairo, Egypt

Feb. 2020 – Jan. 2025

- GPA: 3.7 - High Honors
- Awards: Full scholarship (PSSF) to study at AUC in 2020

Portland State University

Exchange program

Portland, USA

Jan. 2023 – Jun. 2023

WORK EXPERIENCE

GenAI Engineer

EnergyAI.Berlin

Jul. 2025 – Sep. 2025

Remote

- Built the backend of an intelligent energy planning application leveraging multiple **LLM agents** through **Google ADK**, integrating API tools and custom function calls to enhance agent capabilities.
- Processed and cleaned **geospatial datasets** to support site selection and infrastructure deployment for EV charger installations.
- Contributed to end-to-end evaluation of the system—from model selection and tuning to benchmarking and deployment testing.
- Fine-tuned, deployed, and served **small LLMs** on the Llama stack using Python and **Databricks**, optimizing performance via **Unity Catalog**, model cataloging, and production-serving pipelines.

Backend Intern

Thndr

Aug. 2024 – Sep. 2024

Cairo, Egypt

- Developed and maintained a large-scale fintech system for over 3 million users in Egypt and the Middle East
- Collaborated with other software engineers on implementing new features and maintain existing ones
- Worked on new features starting from the technical scoping document till the implementation and testing

Backend Intern

Paymob

Jun. 2024 – Jul. 2024

Cairo, Egypt

- Developed Python Django Rest Framework systems to enhance cashless transactions at global fintech leader
- Contributed to API design and endpoints, supporting digital transformation for SMEs

Undergraduate Teaching Assistant

The American University in Cairo

Sep. 2023 – Dec. 2023

Cairo, Egypt

- Provided 60 hours of TA support for CS1, guiding students and leading exclusive lab sessions.

Software Engineering Intern

AUC Libraries

Jul. 2023 – Aug. 2023

Cairo, Egypt

- Developed a full-scale desktop application using **Python**, **Pandas** and **OpenCV**, for scanning books

Math Tutor

Portland State University

Mar. 2023 – Jun. 2023

Portland, USA

- Tutored 80+ students in 7 different math courses at the Portland State University Learning Center

PROJECTS

Thesis: Optimizing LLMs for Speech Interaction — Garde: A	Feb. 2024 – Dec. 2024
• Developed a speech generation model by integrating ASR, LLM, and TTS technologies • Improved recognition accuracy of rare names and refined post-ASR corrections • Optimized several LLMs (LLaMA, Gemma, Mistral) to enhance human-like, informal speech output	
CyberRange — Discovered and mitigated 10 vulnerabilities in the website	Nov. 2024 – Nov. 2024
Distributed Photo Sharing App	Oct. 2023 – Dec. 2023
• Developed a P2P application integrating distributed systems principles using Rust • Implemented key features such as server load balancing, fault tolerance, offline message caching, and encryption	
CPU — Supports all 40 RV32IMC instructions using Verilog	Oct. 2022 – Nov. 2022
• Implemented a CPU that supports all 40 RV32IMC instructions and handled dependencies and hazard problems	
Simulated Annealing Cell Placer — Achieved the fastest execution among peers	Dec. 2023 – Dec. 2023
Disk Analyzer — Designed disk analyzer tool using Rust and FLTK GUI library	Dec. 2022 – Dec. 2022
Image Caption Generator	Dec. 2022 – Dec. 2022
• Refined an image caption generator model by architectural adjustments and data augmentation.	
Search Engine — Implemented Page-Rank algorithm in C++ to arrange the search results	Dec. 2021 – Dec. 2021

TECHNICAL SKILLS

Languages: C/C++, Python, SQL, Rust, HTML/CSS
Frameworks: TensorFlow, PyTorch, FastAPI, Django, React
Tools: Databricks, Git, Docker, Redis

CERTIFICATIONS

Databricks Certified Generative AI Engineer Associate	Aug. 2025 – Aug. 2027
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EXTRACURRICULAR ACTIVITIES

President — Google Developer Student Club at AUC	Sep. 2023 – Jun. 2024
Head of Public Relations — Computer Engineering and Science Association	Sep. 2022 – Dec. 2022
Data Science Co-Head — Google Developer Student Club at AUC	Sep. 2022 – Dec. 2022
Treasurer — Resala AUC	Sep. 2021 – Jun. 2022