

Hamza Alzahrani

Artificial Intelligence Engineer

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Summary

Artificial Intelligence graduate (GPA 4.52/5.0) focused on generative AI and deep learning. Built and fine-tuned a Stable Diffusion XL image generation model end to end, from synthetic data pipeline to LoRA fine-tune, evaluation, and a [deployed web interface](#). Co-led a real-time computer vision graduation project ([HARIS](#)) with an accompanying research paper under review. Comfortable across PyTorch and TensorFlow, with hands-on work in generative models, computer vision, and NLP.

Education

Bachelor of Science in Artificial Intelligence

Computer Engineering Department, College of Computer Science and Information Technology, IAU · Dhahran

GPA: 4.52 / 5.0 · Second Honour Roll · Expected 2026

Relevant coursework: Deep Learning, Machine Learning, NLP, Computer Vision, Data Science, Generative AI, Linear Algebra, Parallel Computing (all A or A+).

Projects

Lustre · Attribute-Controlled Jewelry Image Synthesis · Leader

Python, PyTorch, Stable Diffusion XL, LoRA

- Designed a 4-axis attribute taxonomy across 54 ring classes and built a synthetic data pipeline that generated roughly 1,267 curated images with SDXL.
- Fine-tuned SDXL with a rank-4 LoRA and shipped a web interface for controllable, attribute-driven generation. Live demo: lustre-nine.vercel.app.
- Reached 97.5% attribute alignment on a held-out prompt set, ahead of DALL-E 3 (92.5%) and base SDXL (85%).

HARIS · Hostile Activity Recognition and Intelligence System · Graduation Project

Role: Project Plan Lead and Co-Lead · Python, Computer Vision, Deep Learning

- Co-led a five-person team that built a real-time CCTV pipeline for weapon detection, multi-person tracking, and skeleton-based action classification (RT-DETR, BoT-SORT, ST-GCN).
- Owned the project planning (SPMP) and literature review, and designed the role-based access control with three user levels (operator, admin, manager).
- Co-authored the research paper, currently under review for publication at IEEE Access.
- Demo: turki-sh.github.io/HARIS.

Technical Skills

Languages: Python, SQL, Java, C++

Frameworks and Tools: PyTorch, TensorFlow / Keras, CUDA, Git

Focus Areas: Generative AI and LLMs, Deep Learning, Computer Vision, NLP

Other: Blender (3D modeling) · Spoken: Arabic (native), English (professional)

Certifications

- Harvard University: CS50's Introduction to Artificial Intelligence with Python
- NVIDIA: Building Transformer-Based Natural Language Processing Applications
- KAUST Academy: Advanced Artificial Intelligence Course
- DeepLearning.AI: Mathematics for Machine Learning and Data Science Specialization

Leadership and Teaching

Course Instructor and Host · IAU Google Students Club

- Designed and delivered an interactive 3D art and Blender course to peers under the Google Students Club: created the full material and taught it to completion, with 20+ students passing, around 35 live attendees, and 300+ views on the recording.

Experience

Part-Time Roles · As3a Platform for Flexible Work

- Customer-facing roles across multiple companies, building adaptability, teamwork, and client communication.