

# IBRAHIM ALHARTHI, Software engineer

+966500404407, devibrakh@gmail.com

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## LINKS

[LinkedIn](#), [protolio](#)

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## PROFILE

Software Engineer with hands-on experience in cloud development, AI/ML, and full-stack engineering. Led backend architecture for a large research platform and built efficient CLIP-based vision models. Experienced with Python, TypeScript, Node.js, PostgreSQL, Docker, and CI/CD, with a strong background in designing and maintaining scalable databases. Developed multiple full-stack applications end-to-end, demonstrating strong capability in system design, product thinking, and technical innovation. Passionate about modern technologies, problem-solving, and contributing to innovative cloud-native solutions, with a strong focus on learning, scalability, and real-world impact.

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## SKILLS

Languages: Python, TypeScript, JavaScript

DevOps: Docker, CI/CD, GitHub Actions

Frameworks: React, Node.js, Express

Databases: PostgreSQL, PostGIS

AI/ML: Computer Vision, TensorFlow, PyTorch

AWS cloud

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## WORK EXPERIENCE

Feb 2024 — Jun 2024

Software Engineer, NORTAL

Riyadh

Developed user interfaces using React and JavaScript for web applications. Collaborated with designers to implement responsive web designs and enhance user experience. Utilized Git for version control and managed code repositories effectively. Engaged in team meetings to discuss project requirements and provide development updates.

Jul 2025 — Present

Full Stack Lead, Australian National University Project

Canberra

In this role, I lead the development of a cloud-ready backend for a scientific research platform, designing the system using TypeScript, Node.js, PostgreSQL/PostGIS, and Docker. I manage code reviews, architectural decisions, and integrations across multiple contributors to ensure a reliable and scalable application. I also implement CI/CD workflows, optimize API performance, and collaborate closely with researchers and engineers to convert complex scientific requirements into efficient, production-quality software.

Dec 2022 — Apr 2023

Web Developer, FREELANCE

Collaborated with designers to implement responsive web designs. Created custom responsive designs that optimized the website layout for various devices. Worked closely with product owners, designers and other stakeholders throughout the development process.

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## EDUCATION

Jul 2024

Master of Machine Learning & Computer Vision, Australian National University

Canberra

Currently pursuing a master's degree focused on advanced AI, deep learning, computer vision, and data-driven engineering. My coursework strengthens my understanding of machine learning theory and applied algorithms, while hands-on projects allow me to build real-world systems using Python, PyTorch, and modern ML frameworks.

Sept 2018 — Aug 2023

BACHELOR OF SCIENCE: COMPUTER ENGINEERING, Taif University

Taif

Completed a comprehensive engineering program covering software development, computer systems, embedded technologies, and networking. Gained strong problem-solving foundations and practical experience through senior projects, internships, and technical electives.

Sept 2022 — Dec 2022

## NANODEGREE: FULL STACK JAVASCRIPT DEVELOPER, Udacity

Completed an intensive program focused on Node.js, Express, PostgreSQL, REST API design, authentication, and building full-stack applications with modern JavaScript.

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## PROJECTS

Jul 2025 — Nov 2025

### CLIP Few-Shot Image Classification

Canberra

Built a CLIP-based few-shot learning system using OpenCLIP, PyTorch, Tip-Adapter, CoOp, and other PEFT methods. Implemented feature caching, training loops, and evaluation across datasets like CIFAR-10 and Flowers102, improving low-shot accuracy while keeping the CLIP backbone frozen.

Nov 2025

### Saudi Heritage Fashion (AI/3D Training Dataset Initiative)

Taif

Developing a large-scale dataset capturing traditional Saudi heritage fashion across regions, including detailed male and female garments, patterns, colors, and accessories. Extracted information from regional heritage PDFs and built structured class definitions for AI training. Designed a generation pipeline using DALL-E and Meshy to synthesize consistent. Aimed at enabling culturally accurate 3D models, vision datasets, and future Saudi-focused AI applications.

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## INNOVATION & LEADERSHIP

Aug 2022 — Aug 2022

### Australian War Memorial Project Pitch Selection

Canberra

Selected by ANU to pitch my team's project directly to Executive Director of the Australian War Memorial. Presented our solution to senior leaders and receiving valuable insights and strategic feedback. This experience strengthened my confidence in leadership, communication, and delivering high-impact ideas to decision-makers.

Aug 2022 — Jul 2023

### Taif Rose Bootcamp

Taif

Led a team to develop an innovative solution for farmers to maximize rose production, presented the project to stakeholders and bootcamp experts, enhancing leadership skills.

Aug 2022 — Jul 2023

### Sabig Innovation Competition

Designed a motivational sports app promoting walking and hiking goals. Pitched the idea to the university head manager, demonstrating strong presentation skills.

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## CERTIFICATIONS

### AWS Cloud Technical Essentials

Completed foundational training in AWS cloud concepts, including compute, storage, networking, security, and cloud-native application development.

2022

### Single-page web applications with AngularJS at Saudi Digital Academy

### IELTS Academic Band 7

Achieved certification demonstrating strong proficiency in academic English communication, supporting effective collaboration in diverse and international technical environments.

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## VOLUNTEERING

Aug 2022 — Jul 2023

### IEEE TU member