

# Abuelgasim Sami Abusonoun

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🔄 aboalgasimm 🔗 Portfolio

## SUMMARY

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Information Technology graduate specializing in Software Engineering and Artificial Intelligence. Built and delivered a fully functional AI based system that integrates facial recognition with hardware for real time attendance and access control. Experienced in developing web applications, working in production IT environments, and leading technical teams. Proven track record through research publications, hackathon awards, and hands on system development. Seeking a role in software development or AI to build scalable and impactful solutions.

## EDUCATION

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**Arab Open University,** Sep 2022 – May 2026 | Saudi Arabia  
*Bachelor of Information Technology and Computing*

## PROJECTS

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**UniFace, Smart Attendance and Security System - Graduation Project**

- Built an end to end AI based attendance and access control system using facial recognition
- Developed a real time face recognition pipeline for identity verification and decision making
- Integrated Arduino based hardware (PIR sensor, LCD, servo) with Python backend
- Implemented exam verification using allowlist based access control
- Designed an event logging system for tracking entry, exit, and unauthorized attempts
- Delivered a fully functional prototype demonstrated in live evaluation

## PROFESSIONAL EXPERIENCE

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**Madinah Development Authority,** Sep 2025 – Feb 2026 | Saudi Arabia  
*Information Technology - Coop*

- Resolved technical issues for users in active environments, improving system reliability.
- Supported network configuration and troubleshooting to maintain stable connectivity.
- Assisted in database operations and system level tasks to improve data handling efficiency.
- Contributed to IT operations across multiple domains including networking and cloud services.

**Arab Open University, Computer Club President** Sep 2024 – Jan 2026 | Saudi Arabia

- Managed operations and events for 130+ student members
- Organized programming workshops, industry tours, and cybersecurity sessions
- Developed partnerships with tech professionals for mentorship
- Collaborated with cross-disciplinary teams on AI solutions

**Haraka, Software Engineer - Internship** Jul 2025 – Aug 2025 | Saudi Arabia

- Built interactive web applications using HTML, CSS, JavaScript, and React.
- Applied Object-Oriented Programming concepts using JavaScript and TypeScript.
- Deployed projects using Git and GitHub.
- Collaborated with engineers on frontend and backend development tasks.

**Tamakkon Comprehensive Autism Center,** Jun 2025 – Jul 2025 | Saudi Arabia  
*Information Technology - Internship*

- Developed and improved the organization's official website.

- Built a personal contact website for the Executive Director to support communication.
- Maintained and troubleshot smart screens, network connections, and audio systems.

## PUBLICATIONS

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**CLIP-DR: Efficient Multi-Grade Diabetic Retinopathy** 2026

**Classification Using SMOTE and Focal Loss with**

**Fine-Tuned Vision Transformers, *IEEE-Explore***

This research develops an AI system for automated diabetic retinopathy classification using CLIP Vision Transformers combined with SMOTE and Focal Loss to address severe class imbalance. Validated on 3,662 fundus images, the model achieved 0.9194 Kappa (almost perfect agreement) and Overall Accuracy: 84.64%. The approach is computationally efficient and suitable for resource-constrained telehealth settings.

**Hybrid CNN-BiLSTM-CTC Framework with Linguistic** 2026

**Refinement for Arabic Handwritten Manuscript**

**Recognition, *Nakba - NLP'26***

This paper presents a deep learning OCR system for recognizing handwritten Arabic text. It combines CNN (visual feature extraction), BiLSTM (sequence modeling), and CTC (end to end training) to tackle key challenges like Arabic's cursive script, diverse handwriting styles, and dot based letter ambiguity. Custom post processing further improves accuracy, with results showing strong performance on complex Arabic manuscripts.

## AWARDS

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**Best Student Paper Award,** 2026

*IEEE-ICAISET'26 SCIENTIFIC COMMITTEE*

My Paper: CLIP-DR: EFFICIENT MULTI-GRADE DIABETIC RETINOPATHY CLASSIFICATION USING SMOTE AND FOCAL LOSS WITH FINE-TUNED VISION TRANSFORMERS. Was Selected As Best Student Research Paper

**Secone Place Winner, *Umm al-Qura University*** 2026

**First Place Winner, *Nasa Space Apps Challenge*** 2025

**Third Place Winner, *Code For Sudan*** 2025

**Second Place Winner, *Royal Commission for Jubail and Yanbu*** 2024

## SKILLS

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- **Technical Skills:**
  - Programming: Python, Java, JavaScript, TypeScript, SQL
  - Web Development: HTML, CSS, React
  - AI & ML: Machine Learning, Deep Learning, Computer Vision, Face Recognition
  - Systems: Embedded Systems, IoT, Real Time Processing
  - Tools: Git, GitHub, REST APIs
- **Soft Skills:**
  - Problem Solving & Debugging in Real Systems
  - Analytical Thinking for AI and Data Driven Solutions
  - Technical Communication with Cross Functional Teams
  - Efficient Time and Task Management under Deadlines
  - Adaptability to Rapidly Changing Technical Environments
  - Continuous Self Learning and Skill Development

## LANGUAGES

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**English**  
*Proficient*

**Arabic**  
*Native/Bilingual*