

Mohamed Hesham

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EDUCATION

Texas State University , San Marcos, TX	Dec 2025
Master of Science, Computer Science Unity Scholarship Winner	GPA: 3.92
Relevant Coursework: Algorithm Design & Analysis, Advanced Computer Security, Scalable Systems	
Arab Academy for Science, Technology & Maritime Transport , Cairo, Egypt	Jun 2019
Bachelor of Engineering, Electronics and Communications	

SKILLS

Languages: Python, C++, SQL, JavaScript
Frameworks & Libraries: FastAPI, Flask, React, LangChain, TensorFlow, MediaPipe
DevOps & CI/CD: AWS, Docker, GitHub Actions, Nginx, Linux
Databases & AI/ML: PostgreSQL, Redis, OpenAI API

EXPERIENCE

Texas State University , San Marcos, TX	Jan 2024 – Dec 2025
Graduate Assistant - Software Engineer	
<ul style="list-style-type: none">Improved department web presence for 70+ users by designing and developing an internal website using Python and Flask, resulting in a 30% reduction in staff response time to student inquiries.Reduced manual operational workload by 50% for a 15-person department by engineering Python automation scripts that eliminated repetitive administrative tasks, reclaiming 10+ staff hours per week and enabling focus on higher-priority initiatives.Accelerated incident detection by building Python-based health monitoring tooling across department Linux servers, resulting in a 40% faster response time to system failures.	
J&M Jewelry , San Marcos, TX	Jan 2025 – Apr 2025
Software Engineer Intern	
<ul style="list-style-type: none">Engineered Python-based backend inference services that improved order accuracy by 25% for 500+ monthly customers by transforming natural language chat input into structured ring design parameters using LLM extraction pipelines.Reduced invalid configuration outputs by 30% by implementing 25+ validation rules in Python enforcing inventory constraints, pricing logic, and design compatibility checks.Accelerated option selection by 40% by integrating an LLM inference-extraction layer that automated design recommendations while preserving deterministic logic and full auditability.	
Orange Business , Cairo, Egypt	Dec 2019 – Dec 2023
Network Software Engineer	
<ul style="list-style-type: none">Reduced manual verification time by 70% across global operations by engineering Python automation scripts to handle performance validation and compliance checks across 500+ network devices.Improved network observability for 50+ enterprise clients by developing Python-based SNMP profiling scripts to extract and analyze real-time performance metrics from routers and switches, enabling proactive fault detection.Accelerated incident resolution by 40% by building automated alerting workflows that flagged degraded network nodes in real time, reducing mean time to resolution across a 10-engineer operations team.	

PROJECTS

ShopScanner for Visually Impaired – Developer	GitHub
<ul style="list-style-type: none">Architected a real-time computer vision system using MediaPipe and TensorFlow to identify grocery products via mobile camera feeds.Implemented backend caching and model optimizations, reducing repeated lookups and improving system response time by 40%.Designed and deployed REST APIs bridging CV outputs with React, ensuring low-latency feedback for accessibility.Improved product detection reliability by 35% by engineering adaptive video processing logic in Python that handled variable lighting and environmental noise across 5+ real-world grocery store environments.	
Scuba Diving Planner – Developer	GitHub
<ul style="list-style-type: none">Reduced dive planning time by 50% building a React and FastAPI app that delivers AI-personalized dive windows across 50+ locations.Boosted recommendation accuracy by 40% integrating OpenWeather, Stormglass, and OpenAI APIs to aggregate wave height, current speed, and visibility into ranked dive windows.Eliminated 100% of invalid planning requests by designing and enforcing 20+ REST API validation rules in FastAPI, ensuring consistent and reliable data flow across the React frontend with zero malformed inputs reaching the backend.	