SARAH EID

Jeddah, Saudi Arabia
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https://sarah-eid.github.io/Portfolio/

EDUCATION

Effat University 2022 - 2026 (expected)
Bachelor of Computer Science
Concentration: Cybersecurity

Al-Kon Al-Motawara International School 2018 - 2022
High School Diploma

Callaghan College Wallsend Campus - Australia 2016 - 2017
Secondary Education

Bishop Tyrrell Anglican College - Australia 2014 - 2016
Secondary Education

AWARDS AND CERTIFICATIONS

Google Project Management Specialization Certification 2025

Public Speaking and Debate Certification 2017

Advanced English Language Proficiency Certification 2022

SKILLS

Programming Languages:
Python, C++, Java, SQL, HTML, CSS, JavaScript

Cybersecurity:
Network Security, Encryption, Zero Trust Architecture, IoT Security

Technical Skills:
Linux Architecture, Cisco Networking, Data Structures, Algorithm Analysis, Data Engineering

Artificial Intelligence and Data Science:
Machine Learning, Data Analysis, Predictive Modeling

Core Competencies:
Project Management, Time Management, Leadership, Problem-Solving

PROJECTS

Student Employability & Salary Prediction Using Machine Learning:

- Developed a predictive machine learning framework to analyze student placement outcomes and starting salaries within the Saudi Arabian labor market.
- Integrated multiple datasets to model academic performance and work experience in alignment with Vision 2030 objectives.
- Evaluated and compared various ML models to identify high-accuracy predictors for university-to-workforce transitions.

Advanced Algorithmic Solutions for Data Structures & Problems:

- Engineered a suite of optimized solutions for complex data structure challenges involving trees, graphs, and advanced range queries.
- Implemented efficient techniques to manage large-scale computational constraints, ensuring high-performance execution.

- Applied rigorous algorithm analysis to minimize time and space complexity across diverse problem sets.

Restaurant Ordering System Using Java OOP:

- Architected a console-based ordering and billing system using Clean Code and Object-Oriented Programming (OOP) principles.
- Leveraged encapsulation and separation of concerns to model real-world workflows, including menu management and payment processing.
- Designed a modular backend to handle automated bill calculations and order tracking efficiently.

Network Security Analysis and Implementation:

- Designed and implemented robust security protocols to mitigate network vulnerabilities, focusing on encryption and data integrity.
- Conducted threat modeling and risk assessments to identify and patch potential attack vectors within a simulated network environment.
- Evaluated performance and security trade-offs of cryptographic algorithms in real-time communication scenarios.

Watchlist Roulette:

- Developed a web application using Streamlit to automate movie selection by scraping and processing Letterboxd watchlist data.
- Integrated the OMDb API to fetch and display real-time metadata, including ratings, cast details, and plot summaries.
- Implemented an AI-powered recommendation engine to suggest similar films based on natural language processing of plot descriptions.

PAPERS

Innovations in Biometric Security: A Comprehensive Review **Dec 2024**
A comprehensive review on innovations in biometric security, analyzing physiological and behavioral modalities. Examined key challenges in real-world deployment, including privacy concerns, anti-spoofing mechanisms, and multimodal fusion, highlighting the need for balanced, inclusive, and privacy-preserving system design.

Student Employability and Salary Prediction Using Machine Learning: A Comprehensive Analysis **Dec 2025**
This paper develops and compares machine learning models to predict two critical outcomes for university students: employability and expected starting salary. The study integrates multiple datasets to create a comprehensive predictive framework for the Saudi Arabian labor market, supporting Vision 2030 objectives.

Strengthening IoT Security: A Comprehensive Approach to Zero Trust Implementation May 2025
This research examines how Zero Trust Architecture (ZTA) can enhance security in Internet of Things (IoT) ecosystems. Evaluates ZTA implementation strategies, including continuous authentication, least privilege access, and micro-segmentation, to address critical vulnerabilities in IoT networks across healthcare, smart cities, and enterprise systems.

A Comprehensive Study of Security Mechanisms in Software Engineering **May 2025**
A comprehensive literature review analyzing how embedding security mechanisms like static analysis, threat modeling, and DevSecOps throughout the Software Development Life Cycle (SDLC) reduces vulnerabilities. Identifies key practices, evaluates their effectiveness, and highlights critical research gaps in empirical validation and organizational factors.

LANGUAGES

English
Arabic