Layal Canoe

Lolocanoe2@hotmail.com
+966 50 439 6673

About Me

I am a third-year Computer Science student with a strong foundation in programming, web development, and problem-solving. I have experience on various projects, I have developed skills in languages such as Python, Java, and C++ and many more. My academic coursework and extracurricular activities have improved my ability to handle complex challenges and work collaboratively in team settings. Recognized for my academic excellence with nomination awards and a high GPA, I am a dedicated and intelligent student willing to apply my skills for technology in a dynamic work environment.

EDUCATION

Effat University , Saudi Arabia, Jeddah
Bachelor of Computer Science, Artificial Intelligence
2022 – 2026 (expected) CGPA: 3.97/4.00

Green Hills International School , Saudi Arabia, Jeddah
Highschool Diploma
2018 – 2022 CGPA: 4.00/4.00

RESEARCH EXPERIENCE

Revolutionizing Round Robin: Dynamic Time Quantum Scheduling for CPU Efficiency
Round Robin (RR) scheduling fairly allocates CPU time but uses fixed time slices, which can be inefficient for processes with varying needs. This paper explores methods to dynamically adjust time slices for improved efficiency.

Peer Pressure, Social Media, and Substance Abuse: Raising Awareness Among Local Teenagers
Early substance use increases the likelihood of addiction later in life, and it is closely linked to mental disorders such as depression, anxiety, and conduct disorder. This paper aims to raise Saudi-residing adolescents' awareness on the dangers of substance abuse using American statistics.

The Quantum Frontier: Navigating the Future of Cybersecurity in the Age of Quantum Computing
Quantum computing, poised to revolutionize industries with its computational power surpassing traditional classical systems, poses significant threats to current cybersecurity infrastructure. This paper delves into the implications of quantum computing on cybersecurity, focusing on post-quantum cryptography (PQC), quantum key distribution (QKD), and hybrid encryption models. It underscores ongoing research, challenges in implementing quantum-resistant methods, and global efforts to safeguard sensitive information. As quantum computing advances, transitioning to secure, quantum-resistant systems is paramount to protecting data and maintaining trust in digital transactions and communications.

Ethical Implications of Computer Implants: Privacy, Autonomy, and Regulatory Challenges
The integration of human microchip implants, encompassing neural interfaces, RFID transponders, and bioelectronic sensors, presents transformative possibilities across healthcare, security, and human enhancement. These technologies raise critical ethical, societal, and regulatory concerns. This paper explores issues related to privacy, autonomy, equity, and consent, emphasizing risks such as data misuse, hacking, and surveillance. Furthermore, the implications of implant accessibility highlight the risk of exacerbating social inequalities, creating a technological divide.

Enhancing Powerline Communication: Research and Application Design
This research paper investigates the potential of Powerline Communication (PLC) as a cost-effective and scalable data transmission method using existing electrical infrastructure. The study examines technical limitations such as noise interference and signal attenuation, and evaluates potential applications in smart homes and industrial IoT systems. As part of a Software Engineering course, the research was expanded into a practical project that included UI/UX design of a conceptual PLC-based mobile application, along with a market analysis to assess user demand, competition, and real-world feasibility.

PROJECTS

- **Music Map**
  It is a dynamic and user friendly website where users can explore top songs and artists from around the world. Built with HTML, CSS, and JavaScript, it offers a seamless experience, along with music quizzes for added fun. Admins can access a secure PHP and SQL-powered zone to manage the database of countries, artists, and songs.
- **Mini Country Simulation**
  A simulated mini-country network in Cisco Packet Tracer with five ministry VLANs, each using dedicated servers and protocols. The central hub manages DHCP across VLANs with unique IPs, while a shared DNS server ensures smooth communication. ACLs regulate traffic between ministries, web servers, and FTP services, ensuring se- cure and efficient operations.
- **To-do List**
  A Java Swing application for organizing daily tasks by grouping them into categories. Users can create, edit, or delete tasks and categories, with options for three task types. Each task includes a title, due date, and priority level. Users can mark tasks as com- pleted to streamline task management and prioritization.
- **Player Performance Analysis**
  This project explores the factors influencing football players' performance by analyzing statistical and match-related data. It aims to build a comprehensive dataset and conduct detailed analyses to uncover insights into what drives players to excel in matches.
- **Intrusion Detection in IoT Using Machine Learning**
  Developed and evaluated an ML-based IDS using Random Forest, SVM, and XGBoost on CIC IoT 2023 data. Applied preprocessing, SMOTE, PCA, and achieved high detection accuracy for cyberattacks in resource-constrained IoT environments.

TECHNICAL SKILLS

Programming Languages: Python, C++, Java, SQL, JavaScript, PHP

Web Development: HTML, CSS, JavaScript

Data Science AI: Machine Learning, Prediction Models, Data Analysis with Python, Working with Datasets, AI Agents

Mathematics: Discrete Mathematics, Calculus, Statistics

Research Cyber Knowledge: AI Research, Ethical AI Practices, Cybersecurity Basics

Tools: Cisco Packet Tracer, Git

General: Network Analysis, Problem-Solving, Team Collaboration

AWARDS

• **Dean's List Award** , awarded for academic excellence at undergraduate in the year 2022-2023 and 2023-2024
• **Queen Effat** , Nominated for the Queen Effat award 2024-2025
• **Effat University Scholarship** , Covering half the tuition fees until graduation,

awarded for maintaining a high GPA.

RELEVANT COURSES

• Computer Programming in C++ • Artificial Intelligence
• Machine Learning • Data Structures and Algorithms • Software Engineering
• Operating Systems • Probability and Statistics • Database Systems
• OOP • Web Development • Discrete Mathematics
• Computer Networks