YOUSSEF WAEL NEAMEH

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PROFESSIONAL SUMMARY

Computer Science student at Beirut Arab University with practical experience across cybersecurity, backend development, databases, machine learning, and network simulation. Building SentinelAI, a SOC/SIEM-style security platform that combines log ingestion, detection rules, anomaly detection, case management, threat intelligence enrichment, and release testing. Seeking an internship where I can contribute to real engineering work while continuing to grow within computer science.

EDUCATION

Bachelor of Science in Computer Science - Beirut Arab University (BAU), Lebanon | 2024 - Expected May 2027

- CGPA: 3.53 / 4.00
- Relevant coursework: Object-Oriented Programming, Data Structures & Algorithms, Database Systems, Web Development, Cybersecurity, Machine Learning, Probability & Statistics, Formal Languages & Automata Theory

TECHNICAL SKILLS

Programming: Java, Python, SQL, JavaScript, TypeScript, PHP, HTML, CSS

Software & Web: FastAPI, React, REST APIs, object-oriented programming, data structures & algorithms, RBAC, audit logging, software design principles

Databases: PostgreSQL, relational database design, ER modeling, normalization, constraints, Alembic, database management systems

Cybersecurity & ML: IDS, SIEM/SOC workflows, network security fundamentals, MITRE ATT&CK mapping, anomaly detection, classification algorithms, feature engineering, model evaluation

Networking & Infrastructure: TCP/IP, OSI model, routing & switching, Cisco Packet Tracer, Docker, Nginx, Cloudflare Tunnel basics

Tools: Scikit-learn, Pandas, NumPy, Google Colaboratory, Git/GitHub, Playwright, k6, Microsoft Office Suite

SELECTED PROJECTS

SentinelAI - AI-Powered SOC/SIEM Security Platform *(In Progress)*

FastAPI, React, TypeScript, PostgreSQL, Docker, Nginx, Machine Learning, Playwright, k6, Cybersecurity

- Building a production-style security monitoring platform with live log ingestion, flexible CSV import, alert investigation, case management, threat intelligence enrichment, MITRE ATT&CK coverage, notifications, and PDF reporting.
- Developed FastAPI backend modules, PostgreSQL/Alembic data models, React/TypeScript dashboard pages, RBAC roles, audit logs, and a Dockerized deployment setup with Nginx reverse proxy.
- Implemented token-based ingestion sources, rule-based detections, a custom detection rule builder, ML anomaly detection, explainability views, a hunting workspace, and admin safeguards.
- Validated major workflows with backend tests, frontend typecheck/build checks, Playwright E2E tests across Chromium, Firefox, and WebKit, and k6 load checks for release evidence.

Machine Learning-Based Intrusion Detection System for Healthcare Networks

Python, Scikit-learn, Pandas, NumPy, Machine Learning, Cybersecurity

- Built a machine learning-based IDS for healthcare network traffic using the NSL-KDD cybersecurity dataset.
- Created an end-to-end ML pipeline covering preprocessing, label encoding, feature selection, normalization, hyperparameter tuning, and cross-validation.
- Optimized a K-Nearest Neighbors classifier and used Random Forest feature importance analysis to identify stronger classification features.
- Achieved 76.29% classification accuracy and evaluated results with accuracy, precision, recall, F1-score, confusion matrices, and ROC analysis.

Hospital Emergency Room Management System

Java, Data Structures, OOP, Priority Queues, Hash Maps

- Developed a Java system for patient registration, treatment prioritization, discharge processing, search, record management, and statistics.

- Implemented a custom Min-Heap Priority Queue to prioritize patients by severity and arrival time, plus a chained Hash Map for efficient record retrieval.
- Applied object-oriented design and algorithm complexity analysis to improve system structure and performance.

PCMart Database Management System

SQL, Relational Databases, Database Design

- Designed a relational database for a PC hardware e-commerce platform covering products, customers, suppliers, orders, payments, inventory, and administrators.
- Implemented primary keys, foreign keys, constraints, referential integrity, and compatibility modules for CPUs, GPUs, RAM, motherboards, power supplies, and PC cases.
- Created inventory tracking, order processing, customer management, and payment management functionality using realistic datasets.

Cisco Network Design Project

Cisco Packet Tracer, Computer Networks

- Designed and simulated network infrastructure in Cisco Packet Tracer, applying topology design, routing, switching, device configuration, and troubleshooting concepts.
- Tested connectivity across devices and strengthened practical understanding of enterprise networking and infrastructure management.

LANGUAGES & STRENGTHS

Languages: Arabic: Native / Fluent | English: Fluent

Strengths: Problem solving, analytical thinking, attention to detail, reliability, teamwork, adaptability, fast learning, time management