

# Mahmoud Mohamed Said Ahmed

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## Summary

DevOps & DevSecOps Engineer with expertise in Kubernetes, cloud-native infrastructure, and secure CI/CD pipelines. Experienced in architecting scalable platforms, implementing enterprise DevSecOps solutions (SAST, DAST, container security, supply chain protection), and managing Big Data and Azure Synapse Analytics workloads. Creator of Exodia OS and active open-source contributor, passionate about building resilient, secure, and automated systems.

## Military status (Completed)

## Education

Bachelor of Computers and Artificial Intelligence, Cairo University (**Class of 2023**)

## Experience:

### Junior DevOps & DevSecOps Engineer – SCB Digital Factory

(Jul 2025 – Present)

- Architected, implemented, and maintained a highly available K3s Kubernetes cluster to dynamically provision and auto-scale Azure DevOps self-hosted agent pools, eliminating reliance on persistent virtual machines and optimizing infrastructure utilization.
- Implemented and maintained Azure Synapse Analytics solutions (Knoan and Doxter platforms), supporting enterprise-scale data warehousing, integration pipelines, and analytics workloads.
- Designed and standardized enterprise-grade Azure DevOps CI/CD pipeline templates, enforcing mandatory environment approvals and service connection governance to ensure secure, compliant multi-stage deployments to OpenShift clusters.
- Secured the containerization lifecycle by building and maintaining zero-critical-vulnerability Docker images for production-grade Quarkus (Java) and Angular (TypeScript) applications, leveraging multi-stage builds, minimal base images (Alpine, NGINX), and container hardening best practices.
- Engineered and deployed a production-ready Big Data platform on OpenShift using Helm, charts and integration: Apache Airflow, Apache Spark, MinIO (Migrated to Nutanix), StarRocks, dbt-core, Jupyter, and LakeKeeper for scalable data processing and analytics infrastructure.
- Established comprehensive observability across multiple OpenShift Kubernetes clusters by deploying and configuring the Prometheus and Grafana monitoring stack, enabling proactive alerting and performance optimization.
- Centralized enterprise logging by architecting and integrating the EFK stack (Elasticsearch, Fluentd, Kibana), significantly improving incident response time and root-cause analysis efficiency.
- Designed, implemented, and continuously maintained a comprehensive DevSecOps framework across the CI/CD lifecycle, integrating automated security controls and governance mechanisms, including: Trivy, Gitleaks, Cosign, Fortify, Prisma Cloud, SonarQube. Integrated both SAST and DAST security testing stages into Azure DevOps pipelines to enforce shift-left security practices

## Projects:

### Exodia OS (Graduation Project – Excellent Grade)

- Built an **Arch-based** Linux distribution tailored for cybersecurity and penetration testing.
- Developed special editions including **Home** and **Acer Predator** with fan/RGB control.
- Adopted by cybersecurity enthusiasts with 500+ pre-installed tools.
- Link: <https://exodia-os.github.io>

### CI/CD Pipeline for VProfile App (GitOps, Kubernetes, Jenkins - open source contribution)

- Designed and deployed a multi-tier Java application with MySQL, Memcached, RabbitMQ, Tomcat, Nginx
- Implemented GitHub Actions workflows for development and production.
- Automated deployments on AWS EKS using Terraform + Helm

### **Acer Predator Kernel Module** (open source contribution)

- Reverse-engineered Windows PredatorSense app to build a Linux kernel module (C).
- Control Keyboard RGB, Fan Speed and TURBO mode .
- Link: <https://github.com/JafarAkhondali/acer-predator-turbo-and-rgb-keyboard-linux-module>

### **Linuwu-Sense** (mmsaeed509/Linuwu-Sense Fork - open source contribution)

- Reverse-engineered Windows PredatorSense app to build a Linux kernel module (C).
- Control RGB, Fan Speed, Overclocking, TURBO mode, System Monitoring and Thermal Profiles
- Link: <https://github.com/mmsaeed509/Linuwu-Sense>

### **PredatorSense Linux** (self-development - open-source app)

- GUI App For mmsaeed509/Linuwu-Sense Fork
- Link: <https://github.com/mmsaeed509/PredatorSense-Linux>

### **Exodia OS Assistant** (PyQt5 GUI App - self-development - open-source app)

- Built modular system assistant application for Exodia OS
- Designed custom UI with non-rectangular windows, dynamic buttons, and system integration features.
- Role Manager, which allows users to install, manage, and configure a role-based environment

### **Ransomware** (self-development - open-source Ransomware )

- It's a basic implementation of ransomware using Python, consisting of two programs: a server and a client
- The server is used to control the client (ransomware) and is hosted on the attacker's machine
- The client, which functions as the ransomware, connects to the server to encrypt/decrypt files

## **Skills:**

- **Version Control & Linux:** Git, Git LFS, GitHub, GitLab, Debian/Arch/RHEL-based
- **Programming:** C/C++, Java, Python, Bash, PowerShell
- **Containers & Orchestration:** Docker, podman, OpenShift, Kubernetes
- **CI-CD & IaC:** Jenkins, GitHub Actions, GitLab CI, Terraform, Helm, Ansible, vagrant
- **Cloud:** AWS
- **Monitoring & Security:** Grafana, Incident Response, Penetration Testing