

SUMMARY

Application Security Engineer and Backend specialist with **4+ years** building production-grade Python/FastAPI systems. **CEH Practical** and **CASE (Java)** certified. Experienced in **OWASP**-aligned secure development and vulnerability research. Proven ability to lead backend teams and ship secure, scalable services in cloud environments.

SKILLS

Security

OWASP Top 10

Threat Modeling

SAST / DAST

Burp Suite

Secure Code Review

Vulnerability Research

Backend

Python

FastAPI

AsyncIO

SQLAlchemy

REST APIs

GraphQL

Cloud & DevOps

GCP Cloud Run

Pub/Sub

Docker

Kubernetes

GitHub Actions

Data & Tools

PostgreSQL

Redis

Git

Linux

Bash

EXPERIENCE

Application Security & Backend Engineer

Nov 2021 - Present

PT Dipo Star Finance · Jakarta, Indonesia

- Conducted internal **OWASP-aligned security reviews** across 3+ microservices, identifying and remediating critical vulnerabilities including auth bypass and injection risks
- Resolved **N+1 query issues** via SQLAlchemy eager loading, improving data retrieval performance significantly across multiple related tables
- Enhanced authentication microservice serving **10+ internal applications** with Redis caching layer, reducing response latency and improving system reliability
- Implemented **event-driven architecture** using Google Cloud Pub/Sub for async microservice communication; deployed on GCP Cloud Run with Cloud Logging and Trace
- Built and maintained **CI/CD pipelines** (GitHub Actions, Docker, Kubernetes) and integrated WhatsApp Business API for real-time payment notifications
- Mentored junior developers on Python/FastAPI best practices — async programming, API design, and database optimization

OPEN SOURCE PROJECTS

MAFIA — Middleware AI Firewall Application

mafia.akarkode.com

Python middleware for FastAPI/Starlette with AI-based brute force detection (ML classifier), XSS/SQLi payload filtering, and Redis-backed IP rate limiting. Drop-in security layer for any Starlette-compatible application.

Python

FastAPI

Redis

ML / scikit-learn

AppSec

JITORM — Just-In-Time Optimized Python ORM

jitorm.akarkode.com

Python ORM with LLVM-based JIT compilation for high-performance data mapping. Reduces execution time and memory usage vs traditional ORMs. Supports PostgreSQL, MySQL, SQLite. Based on IEEE-published, Scopus-indexed research.

Python

LLVM

PostgreSQL

Research

PUBLICATION

Enhancing Python Object-Relational Mapping Performance using Just-In-Time Compiler

Aldi Setiawan · Telkom University, 2025 · IEEE Xplore #10933413

SCOPUS INDEXED

IEEE XPLORE

RESEARCHGATE

CERTIFICATIONS

CEH Practical
Certified Ethical Hacker

EC-Council

Valid until 2026

CASE
App Security Engineer (Java)

EC-Council

Valid until 2027

EDUCATION

Master's in Informatics

Telkom University

Jul 2023 - Jul 2025

Bachelor's in Computer Engineering

AMIKOM Yogyakarta

Jul 2018 - Jul 2022