Seno Pamungkas Rahman

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PROJECTS

VXLANG SECURITY ANALYSIS (THESIS)

cattyman919/skripsi-project ↗

- Developed multiple C++ test applications (Console, **Qt**, **Dear ImGui**) and cryptographic benchmarks using **CMake**, **Ninja**, and **Clang**, integrating the **VxLang SDK** to implement granular virtualization on critical execution paths.
- Conducted in-depth **static and dynamic analysis** using **Ghidra** and **x64dbg**, demonstrating a **>90% reduction** in identifiable symbols and successful obfuscation of control flows against standard debugging techniques.
- Applied virtualization to a functional **Remote Administration Tool (Lilith RAT)** to test operational integrity and analyzed detection evasion capabilities against 72 antivirus engines via **VirusTotal**.

YAZI (OPEN SOURCE)

sxyazi/yazi ↗

- Developed a **real-time task progression system** for file copying operations, replacing static status messages with a visual progress bar, byte transfer metrics, and file counts.
- Engineered the solution by modifying the core **Rust** task logic (‘yazi-core‘) to track I/O states and updating the **Lua**-based UI components (‘yazi-plugin‘) for rendering.
- Navigated a large, complex open-source codebase to implement the feature, successfully merging the contribution to enhance user feedback for long-running operations.

AUTOCV

cattyman919/resume ↗

- Streamlined CV creation by developing a tool that generates **multiple customized PDF versions** from a modular data source split across three YAML files (‘general‘, ‘experiences‘, ‘projects‘), eliminating repetitive manual editing.
- Engineered a **concurrent build process** using **Go’s goroutines and waitgroups**, significantly cutting down generation time for multiple CVs.
- Containerized the entire build environment with **Docker**, ensuring consistent and reproducible builds across different machines.

MOVIEDB SHOWCASE

cattyman919/movies ↗

- Architected a backend API using **Go** and the **Gin framework** to serve as a proxy for the TMDB API, handling requests for popular, top-rated, and upcoming movies.
- Developed a responsive frontend with **React**, **TypeScript**, and **Tailwind CSS** to display movie data fetched from the backend, creating an interactive user experience.
- Containerized the entire application (**Go backend, React frontend, MongoDB**) using **Docker** and **Docker Compose**, and wrote integration tests with **Testcontainers** for the database layer.

SLASH

cattyman919/slash ↗

- Developed a complete 2D game engine loop using **Go** and **Ebitengine**, managing game state, entity updates, and rendering.
- Integrated **Tiled** for level design by creating a custom parser to load and render tilemaps from JSON data, including collision detection logic.
- Implemented core gameplay mechanics including player movement (WASD), enemy AI that follows the player, and a dynamic camera that smoothly tracks the player’s position.

RESTOMATIC

SistemBasisData2023/RestoMatic ↗

- Engineered a responsive and intuitive user interface with **React** and **Tailwind CSS**, leading the frontend development to enhance user engagement.
- Implemented a secure payment system with **frontend validation**, ensuring sufficient balance before processing transactions.

DANCERTOS

cattyman919/AbsenceSystem

- Led the end-to-end development of the DanceRTOS attendance system, building both the **Flutter frontend** and **NestJS backend**.
- Engineered a real-time student login system using **MQTT** and **RFID** on an **ESP32**, enabling secure and instantaneous attendance tracking.
- Designed and implemented a dynamic class schedule and attendance table, providing lecturers with an organized and **real-time view of student presence**.

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JAGA

cattyman919/Jaga

- Led the full-stack development of the Jaga vehicle maintenance app, creating a seamless user experience with **Flutter** and **NestJS**.
- Developed a **GPS-based tracking system** to monitor vehicle mileage and trigger timely service reminders.
- Implemented a **multi-vehicle management system**, allowing users to track and manage maintenance for their entire fleet.

JSLEEP

cattyman919/JSleep

- Developed a complete RESTful API using **Java** and **Spring Boot** to manage the entire hotel booking lifecycle, from user authentication to room reservations.
- Engineered a custom, lightweight database solution using a **JSON-based file system (‘JsonDBEngine‘)**, enabling persistent data storage and retrieval without a traditional database server.
- Implemented core business logic for dynamic room filtering, availability checking based on booking dates, and a complete payment processing system including balance management and voucher application.

ELECTRONIC VAULT LOCK

rroiii/Electronic-Vault-Lock

- Authored and optimized the **VHDL code** for the electronic vault lock, ensuring robust and reliable security.
- Conducted extensive simulations in **ModelSim** to validate the system's performance and identify potential vulnerabilities.
- Led the synthesis of the design in **Quartus**, optimizing for area and power to create an efficient and compact solution.

VAIO (VACUUM ALL IN ONE)

VAIO-CE/VAIO-Code

- Architected a modular and scalable codebase in **C++** on the **PlatformIO IDE**, enabling efficient team collaboration and future development.
- Engineered a real-time gyroscope-based control system with **ESP-NOW**, allowing for intuitive and responsive robot control via a wearable glove.
- Implemented a multi-threaded **FreeRTOS** environment to manage concurrent tasks, ensuring seamless switching between autonomous, gesture, and PS4 control modes.

HTTP SERVER

cattyman919/http

- Engineered a **non-blocking, polling-based socket server** in **C** to handle multiple concurrent client connections efficiently.
- Implemented a **custom HTTP parser and response generator**, enabling the server to handle a variety of requests and serve dynamic content.
- Designed and implemented a **binary search tree for dynamic routing**, allowing for efficient and scalable URL-to-file mapping.

HOME SERVER

- Deployed and manage a suite of services including **Jellyfin for media streaming**, **Portainer for Docker container management**, and an **Asterisk SIP server for home VoIP**.
- Configured core network services, including **Samba for local file sharing**, **nginx as a reverse proxy** for simplified service access, and implemented **fail2ban and firewalld** for enhanced security.
- Established a robust data management and remote access strategy using **rsync for automated backups** and **Tailscale** for secure, seamless access to the entire home network from any location.

HOME SERVER

- **Linux Server (Debian)** that deploys and manage a suite of services including **Jellyfin for media streaming**, **Portainer for Docker container management**, and an **Asterisk SIP server for home VoIP**.
- Configured core network services, including **Samba for local file sharing**, **nginx as a reverse proxy** for simplified service access, and implemented **fail2ban and firewalld** for enhanced security.

EXPERIENCE

CLOUD OPERATIONS – Contract

September 2025 - Present

XLSmart (*Jakarta Selatan*)

- **Engineered** a high-concurrency **Go** tool to automate weekly End-of-Support (EOS) and capacity reporting across **~100 AWS accounts** and **~100 GCP projects**, **slashing manual report generation time from 45 minutes to under 3 minutes**.
- **Built** a **Go** utility to **audit Kubernetes clusters** at scale, querying **EKS clusters** to gather **PodDisruptionBudget (PDB)** and **HPA** data for cross-team resilience analysis.
- **Designed and implemented** key **Grafana** dashboards to centralize observability, visualizing **CPU/Memory** from multiple **Prometheus** datasources and tracking **AWS service capacity** (EC2, RDS, EKS).
- **Investigated and resolved** a production **memory leak** in a microservice by performing deep-dive analysis and tracing using **Datadog** and **Kubernetes CLI** tools.
- **Developed** 'Kluster-Compare', a **full-stack internal tool** (**Go** backend, **Next.js** frontend) to visualize and **diff Kubernetes manifests** between live clusters (**Rancher**) and GitOps states (**ArgoCD**), streamlining **Blue/Green deployment validation**.
- **Optimized container deployments** by implementing **multi-stage Docker builds** (using scratch/distroless images) for internal tooling, reducing image size and **hardening security posture** for Kubernetes deployments.
- **Engineered** an automated **AMI compliance scanner** in **Go** to track **Amazon Linux 2 to 2023 migration** progress across **Karpenter** nodepools and **EKS Managed Node Groups** in **50+ AWS accounts**.
- **Created** a **Grafana health-check automator** that validates **Prometheus datasource connectivity** via the **Grafana API**, ensuring high availability of observability dashboards for critical Telco applications.
- **Conducted deep-dive performance assessments** on **AWS RDS**, identifying bottlenecks and recommending **composite indexing strategies** that optimized query execution for high-volume transaction tables.
- **Integrated internal audit tools** with **Microsoft Graph API** to automatically generate and upload formatted **Excel reports** to SharePoint, eliminating manual data entry for weekly capacity reviews.
- **Streamlined** operational reporting workflows by **automating data collection** from disparate cloud sources (AWS, GCP, K8s), significantly **reducing administrative overhead** for the Cloud Operations team.
- **Refactored** legacy automation scripts into modular **Go packages**, improving **code maintainability**, error handling, and enabling easier collaboration within the engineering team.
- **Orchestrated** the periodic patching and upgrade cycles for **EKS node groups**, ensuring compliance with **security standards** by migrating workloads from **Amazon Linux 2 to AL3**.
- **Enhanced cloud security posture** by developing custom audit tools to detect exposed **Security Groups**, unencrypted **EBS volumes**, and **WAF** misconfigurations across a multi-account environment.
- **Strengthened** access control mechanisms by implementing **AssumeRole** patterns in automation tools, removing the need for static long-lived credentials in scripts.
- **Led cost-optimization initiatives** by building automated scanners to identify **underutilized EC2 instances** and detached **EBS volumes**, facilitating data-driven resource rightsizing decisions.
- **Managed and maintained** Kubernetes infrastructure health, ensuring configuration consistency between **Blue/Green**

environments via **ArgoCD** and **Rancher**.

- **Improved system observability** by consolidating **Prometheus** metrics into unified **Grafana** dashboards, providing real-time visibility into **cluster health** and resource capacity planning.

EDUCATION

Universitas Indonesia September 2021 – September 2025

- **GPA:** 3.78/4.0
- **Coursework:** Computer Architecture, Operating System, Real Time System and IoT, Computer Networks, Software Engineering, Cloud Computing

SKILLS

- **Hard Skill:** Web Development, Android Development, Fullstack Engineer, Networking, Internet of Things, Machine Learning
- **Soft Skill:** Teamwork, Communication, Adaptability, Responsibility, Creativity, Discipline, Honesty
- **Programming Languages:** C, C#, C++, Go, Javascript, HTML, CSS, Python, Typescript, Java, PHP, Dart, Rust
- **Database:** PostgreSQL, MySQL, NoSQL
- **Frameworks & Misc:** React, NestJS, NextJS, Flutter, Spring Boot, ExpressJs, Docker, Tailwind CSS, Git, Linux
- **Certificate** (2025): Red Hat System Administration I & II (RH134 - RHA) - Ver. 9.3
- **Certificate** (2024): AWS Knowledge: Cloud Essentials
- **Certificate** (2023): CCNA: Enterprise Networking, Security, and Automation
- **Certificate** (2023): CCNA: Switching, Routing, and Wireless Essentials
- **Certificate** (2023): CCNA: Introduction to Networks