

Seno Pamungkas Rahman

🏡 Tangerang Selatan | 📩 senop.rahaman@gmail.com | ☎ +62-812-9357-8560 | 🌐 https://senop.dev
in Seno | GitHub cattyman919

RESEARCH INTERESTS

- Intelligent Software Testing and Automated Verification
- Optimization of Distributed Algorithms and Protocols
- Mobile Commerce Systems and Application Development
- Software Reliability and Performance Engineering

EDUCATION

Universitas Indonesia	September 2021 – September 2025
<ul style="list-style-type: none">• GPA: 3.78/4.0• Coursework: Computer Architecture, Operating System, Database System, Real Time System and IoT, Computer Networks, Software Engineering, Cloud Computing	

EXPERIENCE

CLOUD OPERATIONS – Contract	September 2025 - Present
<p><i>XLSmart (Jakarta Selatan)</i></p> <ul style="list-style-type: none">• 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.

PROJECTS

VXLANG SECURITY ANALYSIS (THESIS)

[cattyman919/skripsi-project](#) ↗

- Investigated data privacy protection methods through code virtualization and obfuscation techniques, demonstrating a >90% reduction in symbol visibility against reverse engineering attacks.
- Conducted in-depth static and dynamic analysis using **Ghidra** and **x64dbg** to validate the integrity of protected binary data.
- 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.

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**.

DANCERTOS

cattyman919/AbsenceSystem [🔗](#)

- Designed and implemented a dynamic class schedule and attendance table, providing lecturers with an organized and **real-time view of student presence**.
- 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.

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 managed 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 manages 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.

SKILLS

- IELTS Academic:** 7.0
- Hard Skill:** Database Systems, Web 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 (2023):** CCNA: Enterprise Networking, Security, and Automation
- Certificate (2023):** CCNA: Switching, Routing, and Wireless Essentials
- Certificate (2023):** CCNA: Introduction to Networks

AWARDS

Top 10 Finalist Hackathon BI 2024

August 2024

Bank Indonesia

- Top 10 Finalist in **Bank Indonesia Hackathon 2024** out of 2,200 participants and 450+ proposals
- Spearheaded the development of BitTrack's Frontend and UI/UX**, ensuring a seamless user experience and visually appealing design, while also driving the business strategy and direction of the product.