

WAN AHMAD MUSTAQIM

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ABOUT ME

Senior Software Engineer with experience building government digital platforms and commercial products, combining hands-on full-stack development with system architecture and technical leadership. Skilled in TypeScript, Python, backend APIs, and AWS infrastructure, with a track record of modernising legacy systems, resolving security vulnerabilities, and delivering business-critical integrations. Takes ownership from technical design through delivery while establishing engineering standards and development practices that support maintainable software and effective teamwork.

WORK HISTORY

Senior Full-stack Software Engineer | Luka Marketing Sdn Bhd

Damansara Uptown, Petaling Jaya

Aug 2026 – Now

- Drove Gacha security remediation to closure, resolving vendor-reported vulnerabilities and independently discovered exploit paths across the application.
- Delivered Collectr API integration for card inventory pricing, incorporating external market data to support stock valuation and pricing decisions
- Initiated Gacha API refactor, defining module boundaries and software design patterns to strengthen maintainability and support ongoing product development.
- Defined an architectural proposal to decouple scheduled and on-demand workloads from the API into a dedicated worker repository, recommending Python concurrency approaches for suitable workloads.
- Developed the proposed system architecture for a new product, establishing a technical foundation for implementation planning and architecture reviews.
- Documented the existing Gacha infrastructure through system diagrams, making dependencies and deployment architecture explicit for technical planning.
- Established and enforced Git commit standards and GitHub repository rulesets, strengthening engineering discipline and control over code changes.
- Established the engineering team’s delivery workflow through Jira, fortnightly sprints, sprint objectives, and reviews, connecting product roadmap priorities to planned engineering work.
- Driving FIUU payment gateway integration to expand payment capabilities within the Gacha platform.

Methodologies	Agile delivery, two-week sprints, sprint planning and reviews, product roadmap planning, Git-based development
Responsibilities	Backend development, system architecture, security remediation, API integrations, infrastructure management, engineering standards, and technical delivery planning
Tech-stack / Technologies	Python, REST APIs, AWS (EC2, ALB, IAM, SSM), Docker, Git, GitHub, Jira, Vercel, Cloudflare, Collectr API, FIUU

- Lead cloud-first backend architecture for national-scale government platforms, defining secure, scalable systems using Fastify, Bun, PostgreSQL, and modern TypeScript stacks. Establish engineering standards, automation practices, and performance-focused patterns aligned with government cloud requirements.
- Drive technical direction for platform modernization, including re-architecting the Hansard Parlimen platform from Django to Fastify on Bun. Delivered major performance improvements, reduced system overhead, and moved the platform toward high-performance API and microservices architectures.
- Architect and implement event-driven backend systems using publish-subscribe patterns, enabling scalable asynchronous processing, system decoupling, and improved reliability for mission-critical government services.
- Lead architecture and API development for the Repositori Data dan Maklumat Kementerian Digital (RDMKD), integrating OpenAI-powered summarization, intelligent automation workflows, and secure data-processing pipelines supporting cross-agency use.
- Design and deliver geospatial service capabilities for the SEKOLAHKU platform, supporting scalable location-based discovery, data visualization, and seamless integration across backend and frontend systems.
- Provide senior technical leadership through architecture reviews, engineering standards, cloud-aligned best practices, and mentoring. Promote reliability, quality, and continuous improvement across mission-critical national platforms.

- Build and ship mission-critical national digital platforms including AskMyGov, SiaranGovMy, and TechGovMy, improving public accessibility, service delivery, and overall digital experience for citizens.
- Engineer scalable full-stack applications using modern web technologies, ensuring strong performance, security, and long-term maintainability across government digital products.
- Collaborate with engineering, product, and infrastructure teams to design, build, and deploy reliable, secure, and high-performance government systems.

Methodologies	Kanban(tickets) Scrum(sprints)
Responsibilities	60% Technical & 40% Project Management
Tech-stack / Technologies	Next.js, Tailwind CSS, ShadCN, Django, Django REST Framework, NextAuth, REST APIs, PostgreSQL, Elasticsearch, AWS S3, AWS SDK, GitHub, Linear, MongoDB, Payload.CMS, Atlas, TypeScript, Node.js, AWS, SES, S3, Bun, Fastify, Express

- Led end-to-end operations for 30+ large-scale domestic and international tours, overseeing logistics, client experience, and operational execution for over 500 travelers.
- Directed cross-functional coordination across travel partners, vendors, and internal teams, ensuring seamless tour delivery, operational reliability, and high customer satisfaction.
- Established and managed strategic partnerships with destination agencies and service providers, expanding tour offerings and improving operational flexibility.
- Oversaw financial planning, budgeting, and cost optimization for tour operations, ensuring efficient resource allocation and sustainable business performance.
- Resolved complex operational and customer issues in high-pressure environments, maintaining service continuity and protecting organizational reputation.
- Implemented process improvements and operational enhancements, improving tour execution efficiency and overall customer experience.

Network Engineer Intern
Aries Telecoms, Kuala Lumpur

Dec 2017 – Apr 2018

- Supported enterprise network infrastructure operations, ensuring reliability, availability, and performance of server and network systems.
- Diagnosed and resolved hardware, software, and network issues, minimizing downtime and maintaining uninterrupted service delivery.
- Monitored and optimized network performance through proactive troubleshooting and system analysis.
- Documented network architecture, configurations, and operational procedures, improving maintainability and knowledge continuity.

Methodologies	Agile
Responsibilities	100% Technical
Tech-stack / Technologies	DNS, MPLS, EIGRP, VLAN, STP, VTP, SMNP, Wireshark, Nmap, Putty, VMware, iPerf, Netstat, Nslookup, Linux, Windows Server Management, Fibre Optics, LC Fibre Patching

PROFESSIONAL PROJECTS

AskMyGov (Next.js, Django, NextAuth, Elasticsearch, OpenAI)

- Developed a user-friendly form where citizens can submit their questions after searching the database to avoid duplication.
- Built a custom admin dashboard to streamline moderation and response workflows for government operators.
- Implemented semantic search capabilities using Elasticsearch and OpenAI embeddings, significantly improving query accuracy and relevance.
- Designed a pre-search submission flow to reduce duplicate questions and improve knowledge base efficiency.
- Implemented secure authentication and session management using NextAuth.
- Delivered multilingual platform support using **i18n** to serve Malaysia's diverse language communities.

SiaranGovMy (Next.js + Payload) :

- Engineered a centralized government press release platform to streamline official announcements and public communications.
- Designed a custom Payload CMS content schema and admin interface enabling efficient publishing workflows.
- Implemented structured search functionality allowing citizens to quickly discover official announcements.
- Delivered multilingual support using **i18n**, ensuring accessibility across multiple languages.

TechGovMy(Next.js + Payload) :

- Developed the official GovTech Malaysia website, improving the organization's digital presence and accessibility.
- Architected a scalable content management architecture using Payload CMS, enabling flexible content publishing and long-term maintainability.
- Designed a modern, responsive UI with MYDS library to ensure seamless user experience across devices.
- Implemented a responsive user interface using MYDS design system, ensuring consistent UX across devices.

Hansard Parlimen (Next.js + Fastify + Bun + i18n + AWS ECS):

- Led backend re-architecture, migrating the platform from Django to Fastify running on Bun, significantly improving performance and operational efficiency.
- Containerized backend services and deployed to AWS ECS, enabling scalable and reliable production infrastructure.
- Implemented autocomplete search for parliamentary records, improving information discovery for parliamentary proceedings.
- Developed draft workflow capabilities for parliamentary session entries, improving editorial and publishing processes.
- Delivered multilingual support to broaden accessibility of parliamentary records.

MyGov Landing Portal (Next.js + Payload CMS):

- Spearheaded development of a centralized digital gateway providing citizens unified access to government services.
- Designed a scalable content architecture enabling integration of multiple government platforms.
- Delivered a responsive and accessible user experience aligned with government digital standards.

Sekolahku (React + Fastify + Bun + FastAPI + Payload.cms):

- Led backend development and system architecture for the SekolahKu platform.
- Designed and implemented a geospatial data processing pipeline, ingesting school location datasets and parliamentary/state boundary polygons into MongoDB geospatial collections.
- Developed location-based search and filtering APIs enabling users to discover schools by state, parliament constituency, and geographic proximity.
- Built a map-based discovery feature from concept to production, integrating backend geospatial queries with frontend visualization.
- Architected a poly-repo microservice structure, deploying Fastify services and a FastAPI data-processing service on AWS ECS.
- Implemented on-demand dataset processing workflows to support Ministry of Education (KPM) data ingestion and updates.

Repositori Data dan Maklumat Kementerian Digital (RDMKD)

- Architected scalable backend APIs using Fastify and Bun, supporting high-performance document processing workflows.
- Integrated OpenAI services to enable automated document summarization and metadata generation.
- Designed system architecture to support intelligent document search and future AI-assisted workflows.

Digital Ministry Website Enhancements:

- Delivered stability and usability improvements through targeted bug fixes, UI refinements, and feature enhancements.
- Improved system reliability and user experience for public-facing government services.

FREELANCE PROJECTS

GooseTouchRugby Landing Website (Next.js + PayloadCMS) :

- Developed a modern, responsive landing website to strengthen GooseTouchRugby's digital presence and service promotion.
- Implemented Payload CMS to enable non-technical stakeholders to manage and update website content efficiently.
- Optimized site performance and SEO to improve discoverability, load speed, and overall user experience.

StudyBuddy Student Management Dashboard (Next.js + Supabase + NextAuth) :

- Developed a secure, role-based dashboard to streamline management of student records, classes, and administrative workflows.
- Integrated Supabase as a scalable backend for data storage and real-time synchronization.
- Implemented secure authentication and access control using NextAuth to support multiple user roles and permission levels. Designed an intuitive, user-friendly interface to improve operational efficiency for administrators and staff.

StudyBuddy Landing Website (Next.js + PayloadCMS) :

- Developed the public-facing StudyBuddy website to showcase platform capabilities and support user acquisition efforts.
- Structured content management workflows with Payload CMS, enabling efficient updates for marketing and business teams.
- Delivered a clean, responsive user experience optimized for both desktop and mobile devices.

PERSONAL PROJECTS

CSVQuery-RAG (Python + Gradio + Langchain + ChromaDB + OpenAI Embeddings & LLM) :

- Built a Natural Language Query System using LangChain and OpenAI that enables users to analyze CSV data through conversational interactions. Integrated community posting capabilities within a React.js front-end for enhanced user engagement.
- Implemented Retrieval Augmented Generation (RAG) architecture with conversation memory for contextually-aware data analysis
- Developed a user-friendly web interface using Gradio, allowing non-technical users to extract data insights through simple queries

CommuniTalk (MERN Stack) :

- Created 'CommuniTalk', a real-time social networking platform with secure user authentication, instant messaging, and group chats.
- Integrated community posting capabilities within a React.js front-end for enhanced user engagement.
- Utilized Node.js, Express, and MongoDB for robust backend operations, ensuring efficient data management.
- Implemented WebSocket for live communication, significantly improving user interaction and connectivity.

Restaurant Food Review Web Application (Express.js) :

- Developed a comprehensive food review website using Express, MongoDB, and Passport-Local for authentication.
- Integrated Cloudinary for image storage, enabling users to post reviews and edit their profiles for public viewing.
- Users can update their reviews, fostering an interactive community for food enthusiasts to share experiences and recommendations.

Hospital Management System (Django) :

- Developed an integrated Hospital Management System to streamline hospital operations, handling patient information, appointments, and administrative tasks.
- Designed patient features to view/update personal and medical info, request appointments, and access records submitted by doctors.
- Enabled manager functions for overseeing operations, staff management, assigning doctors and scheduling appointments, and managing patient records.
- Provided doctors with access to patient medical records, appointment management, prescription capabilities, and a comprehensive view of treated patients.
- Utilized Django framework and PostgreSQL for robust backend development, with secure authentication and password hashing for data security.

Inventory Management System (MERN Stack) :

- Engineered a user-friendly Inventory Management System utilizing React for front-end and Express for backend functionality, deployed on Heroku.
- Enabled user authentication and authorization features to ensure secure access, with enhanced privileges available for admin users.
- Implemented product management capabilities, allowing users to list, sort, add, edit, and remove products within the inventory.
- Administered exclusive admin controls for managing the inventory, including adding new products, and editing or deleting existing ones.

EDUCATION

General Assembly Australia | Oct 2023 - Dec 2023

Software Engineering Immersive

Vocational College ERT Setapak, Kuala Lumpur | Sep 2014 - Jul 2017

Diploma in Computer Systems & Network Technology

CERTIFICATION

OpenEDG Python Insitute | Jan 2024

PCEP – Certified Entry-Level Python Programmer certification

OpenEDG Python Insitute | Feb 2024

PCAP – Certified Associate in Python Programming

SKILLS

SOFT SKILLS

- Communication
- Work Ethic
- Problem Solving
- Teamwork
- Critical Thinking
- Time management

PROGRAMMING SKILLS

- Python
- Django
- JavaScript
- Node.js
- React.js
- Next.js
- ElasticSearch
- Rest API
- Fastify
- OpenAI
- Server Side Render
- GitHub
- Express.js
- MongoDB
- PostgreSQL
- Flask
- Payload
- Tailwind
- NextAuth
- Shadcn UI
- i18N
- Bun
- S3

LANGUAGE

- Malay
- English

REFERENCES

Mr Zaid – Tech Lead at GovTech Malaysia

Contact: zaidaiman@gmail.com.my | +60 19-394 2846

Mr Yusoff – Business Operations at Heritage One Stop Travel & Tours

Contact: + 6010-555 0905 (Personal Private Number)

Human Resource Department at Aries Telecoms (Now defunct)

Contact: enquiry@ariestelecoms.com.my | + 603 7781 7788

Mr Christopher Holt – Lecturer at General Assembly Melbourne, Australia

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