

William Gan HanSong

Recent Graduate - Former Software Engineer – AWS Certified Solutions Architect – ITIL 4 Certified

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Profile Summary

- **Recently Graduated** with **BSc in Information Technology**, achieving a **First Class Honours**.
- **Former Software Engineer** with a proven ability in **application development, troubleshooting**, and understanding of software and system architectures.
- Proficient in designing **scalable cloud architectures** and automating **cloud provisioning** using **Terraform (Infrastructure as Code)**, enabling robustness, operational and cost efficiency.

Cloud Projects (More on Page 2)

Scalable 3-Tier System with CI/CD Pipelines on AWS

- **Architected and implemented** a highly available **3-tier system** using **AWS services** like **IAM Roles, Security Groups, Route 53, EC2, Launch Templates (Bash), ALB, ASG, ACM, CloudFront, S3, and Secrets Manager**.
- **Automated Build and Deployment** by establishing **CI/CD Pipelines** using **AWS Connector for GitHub, AWS CodePipeline, AWS CodeBuild, AWS CodeDeploy**, and writing **AppSpec.yml** scripts.
- **Automated infrastructure provisioning** using **Terraform (Infrastructure as Code)**, improving **time efficiency by 90%** and ensuring **reproducibility** across different environments.

Work Experience

NCS Group – Software Engineer (Left role to pursue degree)

Aug 2021 – Oct 2022

- Optimized and upgraded **python-based data processing pipelines**, improving job execution time by 20%.
- Monitored **system logs via Azure Monitor** to **troubleshoot, resolve errors** and **ensure stability**.
- Wrote **SQL queries** to fulfill data extraction/reporting requests from stakeholders using **Microsoft SQL Server**.
- **Remediate OWASP vulnerabilities** by **patching dependencies** across internal microservices.

Inventory Specialist (Data) @ Aftershock PC

Jul 2020 – Jun 2021

- **Automated Workflows** in Google Sheets through **Apps Scripts, Conditional Formatting Algorithms**, and **Pivot Tables**.
- Developed an **Inventory Monitoring Dashboard** for **Trend Analysis** such as forecasting future inventory needs.

Education

- **BSc in Information Technology, First Class Honours** – Teesside University
- **Diploma in Electrical and Electronics Engineering** – Republic Polytechnic

Grade Awarded in Feb 2025
Completed in May 2018

Notable Certifications

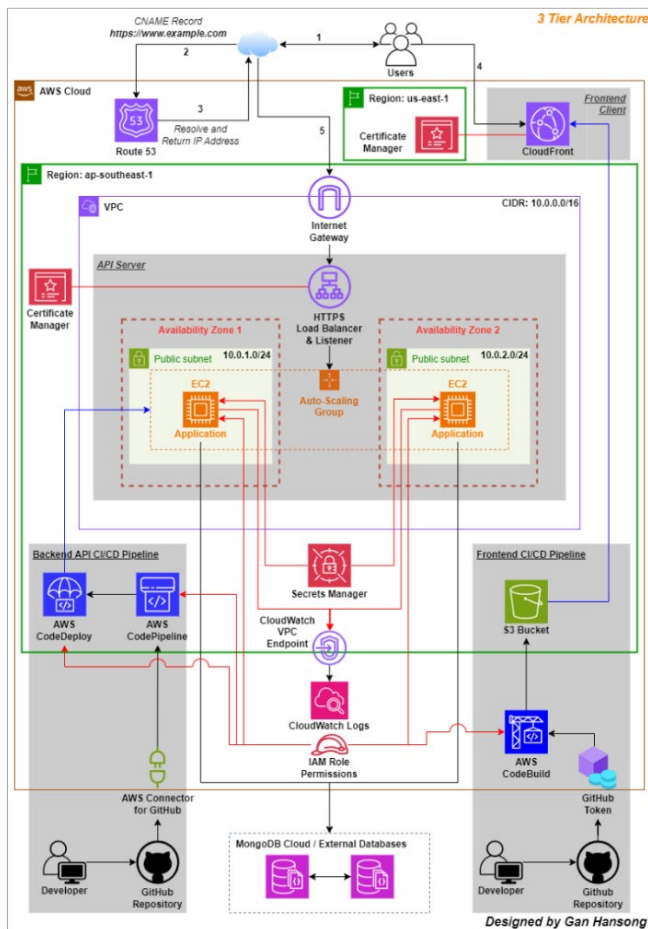
- **IBM Applied DevOps Engineer** – Issued by **IBM** (IBM Cloud, **Kubernetes**, **CI/CD**)
- [AWS Solutions Architect Associate](#) – Issued by **AWS** (AWS Cloud, System Architecture)
- [Google Data Analytics Professional](#) – Issued by **Google** (SQL, R Programming, Tableau)
- **ITIL 4 Foundation Certificate** – Issued by **PeopleCert** (IT Service Management)

Work in Progress
Acquired in May 2024
Acquired in Jun 2021
Acquired in May 2025

Technical Skills

Development: ReactJS, Redux, Node.js, Express.js, MongoDB (NoSQL), JWT Auth
Languages: JavaScript (ES6), Python, HCL, PowerShell, YAML, Bash, JSON, SQL
Tools: AWS, OpenShift, Kubernetes, Docker, VMWare, NGINX, Terraform, Postman, Git/GitHub
Relevant Concepts: Containerization, Orchestration, Auto-Scaling, Load Balancing, Reverse Proxy, Infrastructure as Code (IaC), Scripting, CI/CD Pipelines, DNS Management, Secrets Management, IAM, ITIL, ISO 27K.

My Cloud Projects on AWS



Scalable 3-Tier Architecture with CI/CD PL

The application is deployed in a **scalable and high-availability** system leveraging **AWS** Cloud services and deployed using **Terraform (Infrastructure as Code)** tool.

Frontend Application: Hosted static assets on S3 with global distribution through **CloudFront (CDN)**.

Frontend CI/CD Pipeline: Used **AWS CodeBuild** to detect changes from GitHub, pull the repository and build, and store in S3 bucket.

Backend Application: Used **EC2 instances in Auto Scaling Groups** behind a **Load Balancer** for scalability.

Backend CI/CD Pipeline: **CodePipeline** to detect changes on GitHub, trigger **CodeDeploy** to release new versions onto EC2 instances in the Auto Scaling Group with zero downtime using **Blue/Green Deployment**.

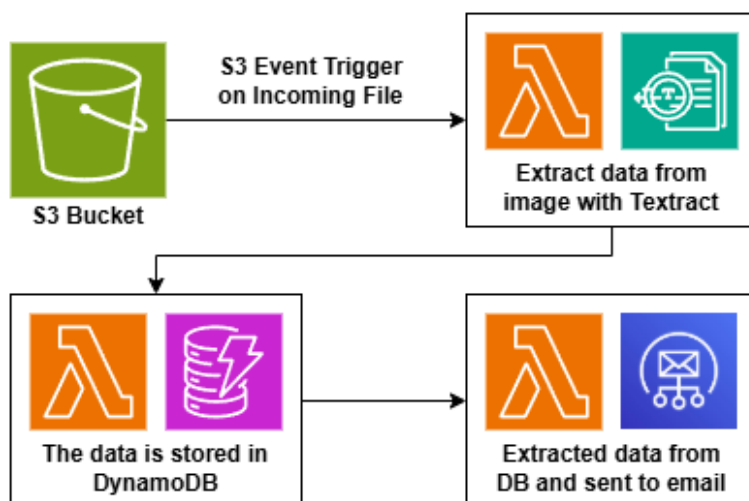
Services Used: Route 53, Certificate Manager, Secrets Manager, IAM, S3, CloudFront, CloudWatch Logs, VPC, IGW, Subnets, Route Tables, EC2, Load Balancer, Target Groups, Auto Scaling Groups, CodeBuild, CodePipeline, CodeDeploy.

Frontend (App): <https://github.com/hswg94/ecommerce-react-frontend>

Backend (App): <https://github.com/hswg94/ecommerce-express-api/>

Terraform (IaC): <https://github.com/hswg94/ecommerce-terraform>

Live Demo: <https://ecommerce.hswg94.com>



Serverless AI Text Extraction System with Notification

This cloud native **serverless application** enables an **effective, scalable, and low-cost** solution for **AI Text Extracting** solution from receipts and providing the output notification (Email and SMS) with the use of services such as S3, Extract, **Lambda Function** and SES.

Source Code (Lambda): <https://github.com/hswg94/Lambda-Function-for-Serverless-AI-Text-Extraction-System-with-Notification>