

# William Gan HanSong

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

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## PROFILE SUMMARY

- Recently graduated with a **BSc in Information Technology**, achieving a **First Class Honours** and scoring **81%** in **Information Governance** through an **Information Security** portfolio aligned with **ISO27K** series and **NIST 800-30**.
- **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.

## PROFESSIONAL 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 and resolve errors**, ensuring **stability**.
- Wrote **SQL queries** to fulfill data extraction and reporting requests from stakeholders using **Microsoft SQL Server**.
- **Remediated OWASP vulnerabilities** by **patching dependencies** across internal microservices.
- Drafted & present **monthly progress reports** to stakeholders using **Microsoft PowerPoint**.

### 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 (Grade: 77%)** – Teesside University Completed in Feb 2025
  - ❖ **Modules:** *Information Governance, Service Management, Computing Project Databases and Business Intelligence, Client Focused Business Solutions.*
- **Diploma in Electrical and Electronics Engineering** – Republic Polytechnic Completed in May 2018

## NOTABLE CERTIFICATIONS

- **IBM Applied DevOps Engineer** – Issued by **IBM** (IBM Cloud, **Kubernetes**, **CI/CD**) Work in Progress
- **[AWS Solutions Architect Associate](#)** – Issued by **AWS** (AWS Cloud, System Architecture) **Acquired in May 2024**
- **[Google Data Analytics Professional](#)** – Issued by **Google** (SQL, R Programming, Tableau, Excel) Acquired in Jun 2021
- **ITIL 4 Foundation Certificate** – Issued by **PeopleCert** (IT Service Management) **Acquired in May 2025**

## TECHNICAL SKILLS

**Development:** ReactJS, Redux, Node.js, Express.js, MongoDB (NoSQL), JWT Auth

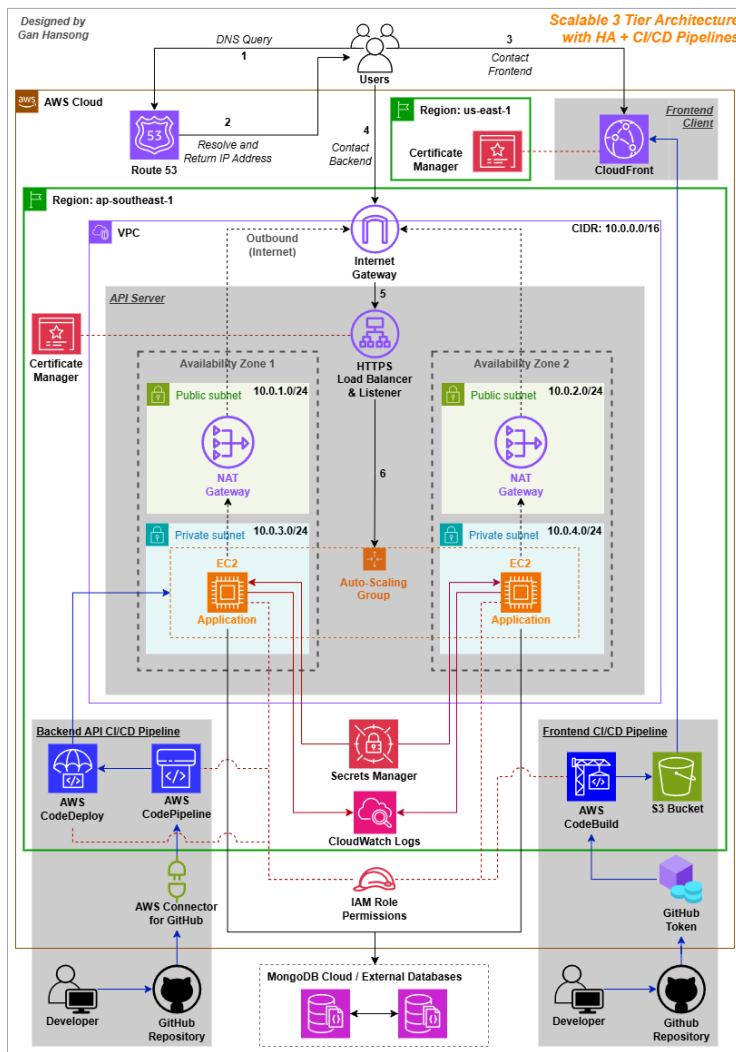
**Languages:** JavaScript (ES6), Python, HCL, PowerShell, YAML, Bash, JSON, SQL

**Tools:** AWS, OpenShift, Kubernetes, Docker, NGINX, Terraform, Postman, Git/GitHub

Containerization, Orchestration, Auto-Scaling, Load Balancing, Reverse Proxy, Infrastructure as Code (IaC),

**Relevant Concepts:** Scripting, CI/CD Pipelines, DNS Management, Secrets Management, IAM, ITIL, ISO 27K.

# My Cloud Projects on AWS



## Scalable 3-Tier Architecture with High Availability + CI/CD Pipelines

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, Nat Gateway, IGW, Subnets, Route Tables, EC2, Load Balancer, Target Groups, Auto Scaling Groups, CodeBuild, CodePipeline, CodeDeploy.

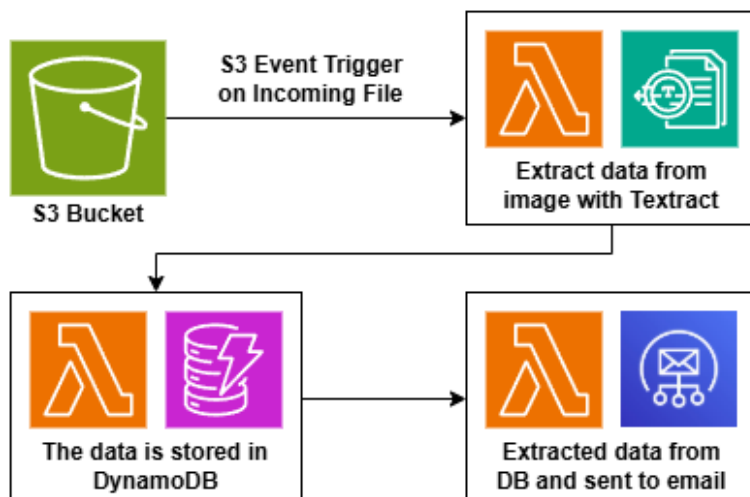
**Frontend (App):** <https://github.com/hswg94/ecommerce-react-frontend>

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

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

**75 Page Doc:** <https://github.com/hswg94/ecommerce-terraform/blob/main/Project%20Documentation.pdf>

**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 Extraction** from receipts and providing a **notification** (Email) with the use of services such as **S3, Extract, Lambda Function** and **SES**.

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