

# TEO JIA YI ZOE

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## OBJECTIVE

Backend software engineer with expertise in Python, FastAPI, Django, and cloud infrastructure. Passionate about designing scalable, secure, and efficient backend systems.

## WORK EXPERIENCE

### **Government Technology Agency**

**JAN 2022 - JAN 2025**

#### **Cybersecurity Engineer (Backend Software Engineer)**

- Architected and deployed a multi-cloud application (AWS & Azure) supporting tens of thousands of accounts, with Terraform-driven infrastructure automation to ensure scalability, security, and compliance
- Built a user-facing dashboard for visibility into cloud security posture, enabling faster issue detection and resolution
- Developed high-performance RESTful APIs in Python/Django REST Framework, optimizing queries and adding caching to reduce response times
- Automated provisioning and configuration management with Terraform, cutting deployment time by 50% and reducing human error
- Delivered security and observability enhancements, including AWS Config integration for real-time compliance monitoring, Elasticsearch for system health analysis, and an LLM-powered chatbot that cut incident resolution time by 60%

### **Amazon Web Services (AWS)**

**APR 2021 - DEC 2021**

#### **Solutions Architect**

- Designed Proof of Concepts (PoCs) demonstrating scalable backend architectures using AWS to meet client requirements, successfully demonstrating potential solutions
- Designed and presented technical solutions through architectural diagrams and demonstration, effectively communicating complex concepts to stakeholder
- Advised end-users on AWS best practices (IAM security, API Gateway, Lambda, ECS, S3, RDS), enhancing system reliability and scalability

### **Accenture**

**MAR 2020 - APR 2021**

#### **Business & Technology Delivery Analyst**

- Designed and implemented Java-based microservices with a focus on scalability, performance, and maintainability
- Migrated legacy COBOL codebases into modular Java microservices, reducing inter-service dependencies and improving system efficiency
- Conducted unit testing, debugging, and code reviews to uphold code quality and identify optimization opportunities
- Troubleshoot and resolved software defects in collaboration with cross-functional teams, ensuring timely delivery of system enhancements

### **Accenture**

**SEP 2019 - FEB 2020**

#### **Functional Analyst (Intern)**

- Assisted in the design and implementation of backend application logic and configuration, collaborating with senior analysts to meet project requirements
- Updated requirements based on mined data, ensuring alignment with user expectations, which reduced the need for post-deployment changes
- Conducted defect analysis using data mining techniques to identify patterns and areas for additional testing, leading to the early detection of defects and reducing production issues

- Expanded test cases using data analysis to improve coverage and ensure robust application performance

## PROJECTS

- **HDB Price Insight (FastAPI, React, Pandas, Scikit-learn, RandomForestRegressor)**
  - Developed a full-stack web application to predict HDB resale prices using a RandomForestRegressor model exported from Jupyter Notebook
  - Built a FastAPI backend with endpoints delivering current and future-year price projections based on lease, town, flat type, and floor area
  - Created a modern React frontend featuring dynamic forms, results visualization, and user-friendly validations for predictive analytics
  - Preprocessed and modeled data using Pandas and Scikit-learn pipelines, achieving high predictive accuracy ( $R^2 > 0.92$ )
- **Full Stack Spot Checker (FastAPI, React)**
  - Designed and implemented a full-stack web app for eatery inspections, including authentication, observation logging, and data retrieval APIs
  - Integrated FastAPI backend with React frontend to streamline operational workflows
- **Inventory Management System (FastAPI, React, AWS)**
  - Built a web-based inventory management tool to track, add, and update stock items
  - Implemented RESTful APIs with FastAPI and integrated them with a React frontend for real-time data updates
  - Deployed backend services on AWS for scalability and accessibility

## EDUCATION

### **National University of Singapore**

**FEB 2019 – FEB 2020**

- Graduate Diploma in Systems Analysis

### **University of London**

**AUG 2015 – JUN 2018**

- Bachelor of Science (Honours) Business and Management

## SKILLS

- **Programming & Web Development:** Python, FastAPI, Django, JavaScript, Node.js, Express, React, HTML, CSS
- **Cloud & Infrastructure:** AWS, Azure, Terraform, Docker, ECS, CI/CD
- **Databases & Observability:** PostgreSQL, MySQL, DynamoDB, Elasticsearch
- **Security & Best Practices:** IAM, API Security, OAuth2, JWT, Cloud Compliance

## CERTIFICATION

- AWS Certified Solutions Architect - Professional
- AWS Certified Database - Specialty
- AWS Certified Data Analytics - Specialty
- AWS Certified Developer - Associate (DVA)
- HashiCorp Certified: Terraform Associate (003)