

# **Muhammad Ishan Wardhono**

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## **Summary**

**3 years of experience** as Backend Software Engineer

## **Skills**

**Languages:** Go, Typescript, C#, NodeJS, Java

**Databases:** PostgreSQL, MongoDB, CockroachDB, Redis

**API:** REST, gRPC, GraphQL

**Message Queue:** Go NSQ, RabbitMQ

**Cloud Platform:** Google Cloud Platforms (GCP), Amazon Web Services (AWS)

**Container:** Docker

**Test:** Unit, Integration, End-to-end, Benchmark

**CI/CD:** Jenkins, CircleCI, Github Actions Workflow

**Monitoring Tools:** Datadog, Grafana, Scalyr

## **Work Experiences**

### **Pingspace Robotics | Backend Developer | May 2021 - Now**

*Penang, Malaysia (Remote)*

A robotics warehouse startup with a mission to automate and simplify the warehouse industry

#### **Cube System Api**

The centralised application system fulfils entire warehouse operation

## **Responsibilities**

- Develop and maintain backend service with C# and PostgreSQL database
- Implement a logging system with RabbitMQ and MongoDB
- Implement a caching system with Redis
- Implement REST API for service communication
- Maintain Unit Tests for each function
- Implement file management with AWS S3
- Collaborate with Front End team to improve system's UI/UX

**Language:** C#

**Framework:** .NET 6.0

**Tools:** PostgreSQL, MongoDB, RabbitMQ, Redis, AWS S3

**Platform:** AWS

## **Ruwell App**

E-Commerce service sells some products stored in the warehouse

## **Responsibilities**

- Design and develop backend service using Typescript with Serverless-Stack
- Implement database using MongoDB
- Create high-level and low-level documentation
- Develop App-Management, Products, Shops and Balances services
- Create Sign-In with Apple integration for the service user authentication
- Deploy stacks to AWS Lambda Functions
- Implement file management with AWS S3
- Maintain Unit Tests up to 80% code coverage
- Implement SOLID Principles

**Language:** Typescript

**Framework:** Serverless-Stack, Jest

**Tools:** MongoDB, Lambda Function, AWS S3

**Platform:** AWS

## **Storage Management System**

System application that manages the warehouse storage information and controls the track movement for robotic warehouse cars

### **Responsibilities**

- Develop backend service with NodeJS and PostgreSQL
- Implement REST API for service communication
- Create Unit Tests up to 60% code coverage
- Create Integration Tests for the most frequently used endpoints
- Implement Github Action Workflow to run unit test on push to an active branch
- Containerize the services with Docker and Docker Compose

**Language:** NodeJS

**Frameworks:** ExpressJS, ObjectionJS, KnexJS, Jest

**Tools:** PostgreSQL, Docker

## **Tokopedia | Software Engineer | April 2019 - May 2021**

*Jakarta, Indonesia*

A leading Indonesian unicorn technology company in the e-commerce industry

### **Responsibilities**

- Design and develop Order Status Management, Generic Order Fulfilment and Unified Order History platform service with Golang
- Design database system using CockroachDB
- Maintain high availability, reliability and scalability for the services
- Implement Dependency Injection, Design Patterns and SOLID Principles
- Implement ACID Principles for the database
- Implement asynchronous communication and retryable system with Go-NSQ Message Queue
- Develop GraphQL server for Front End communication
- Implement REST API and gRPC to communicate to other backend services
- Implement search engine with Elasticsearch

- Implement caching system with Redis Cluster
- Implement schedule-based auto-scale with Terraform on high traffic events
- Become a PIC for the 2 biggest vertical businesses (Marketplace and Digital Goods) to collaborate and integrate into the Unified Order History service
- Implement system monitoring tools with Datadog, Grafana and Scalyr
- Implement CI/CD with Jenkins
- Create and maintain Unit Tests code coverage with a minimum of 70%
- Create Integration Tests for all endpoints in an isolated environment with Docker
- Create End-to-end Tests for almost all possible flows
- Perform Load Tests to find out the system's limit

### **Achievements**

- Increase service uptime by more than 99%
- Keep the error rate below 1%
- Increase system performance up to 300% (2500 RPS, average 60ms response time)
- Improve functionality performance by reusing gRPC client, String Concatenation efficiency, Reduce nested loops based on benchmark tests
- Reduce dependencies for other team services with Order Status Management service
- Speed up new vertical business delivery with General Order Fulfilment service
- Increase customer satisfaction with Unified Order History service based on app reviews and feedbacks

**Language:** Golang

**Framework:** Mux

**Tools:** CockroachDb, Redis Cluster, ElasticSearch, Go-NSQ (Message Queue), gRPC, GraphQL, Docker, Jenkins

**Monitoring:** Datadog, Grafana and Scalyr

**Platform:** Aliyun, GCP, AWS

## **PT. Buana Varia Komputama | Java Programmer | Nov 2018 - April 2019**

*Jakarta, Indonesia*

IT consultant company in the pharmacy and health industry

### **Responsibilities**

- Build and maintain a national scale for a private state company, using Java with Spring Boot and PostgreSQL
- Revamp reporting and improve the performance
- Provide fast delivery of UAT change request

**Language:** Java

**Framework:** Spring Boot

**Tool:** PostgreSQL

## **Internship | Programmer | June 2017 - August 2017**

Directorate General of Customs and Investigation

### **Responsibilities**

- Develop and maintain a web application system of archive processing management with PHP

**Language:** PHP

**Framework:** Laravel

**Tool:** MySQL

## **Personal Web**

Online resume personal web

**Link:** [pancisukarela.com](https://pancisukarela.com)

**Language:** React, HTML, CSS

**Tools:** Firebase, Google Domain, Google Compute Engine, Github Action Workflow

**Platform:** GCP

## Education

**Universitas Sumatera Utara | Computer Science | September 2014 - July 2018**

Bachelor of Computer Science

**GPA:** 3.76

**Relevant Courses:** Computer Science, Software Engineering, Information Technology

**Research Title:** Implementation of the Hill Cipher 4x4 Algorithm and ElGamal Elliptic Curve Algorithm on Hybrid Cryptosystem for Security Digital Image Android Based

**Teaching Assistant Class:**

- Programming Algorithm
- Data Structure and Algorithm
- Object-Oriented Programming
- Algorithm Analysis Design
- Compilation Technique
- Computer Graphics and Visualisation