

# Bryn Ghiffar

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## SKILLS

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**Languages:** C++, Rust, Java, Python, JavaScript/TypeScript, Swift

**Frameworks:** React, NextJS, Express, Spring, FastAPI, UIKit

## EXPERIENCE

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**Bitwyre** | *Software Engineer*

May 2024 – Present

Bitwyre is a cryptocurrency exchange, with a simple and easy to use trading interface. Bitwyre focuses on-ramping and off-ramping user's from fiat to cryptocurrency. At Bitwyre, I was part of the core-trading engine team, the team is responsible for maintaining Bitwyre's core services.

- Led a team project to rewrite the core matching engine from C++ to Rust, reducing memory usage from 5GB to 500MB. This project was completed in 1 month and was deployed to production after 1 week of testing.
- Rewrite core risk engine from C++ to Rust, reducing memory usage from 5GB to 500MB and increasing message processing speed by 2x from 30K TPS to 60K TPS. I completed this project in 2 weeks and deployed it to production after 2 more weeks of testing.
- Fixed critical production issues in C++/Rust core services ranging from user's having assigned incorrect balances post trade to bugs in the core matching algorithm, which resulted in orders not being matched as expected.
- **Tech Stack:** C++, Rust, Conan, Redpanda, KDB+, MySQL

**Geodwipa Teknika Nusantara** | *Software Engineer (Contract)*

(9 mo) April 2023 – Dec 2023

Geodwipa is an oil & gas consultancy firm that offers training and software solutions to help oil & gas companies digitize their operations. I worked on client facing projects and was given various tasks ranging from programming, designing user interfaces to setting up development servers.

- Improved GDV's (GTN Data Viewer) responsiveness by reducing seismic data analysis processing time and implementing a task queue, so that data processing can be done asynchronously, user's no longer need to wait for a process to be finished before doing something else.
- Implemented a key feature in MetaDB to digitalize hard copy documents by leveraging Google Cloud's OCR API.
- Used docker in combination with docker swarm to implement automatic restarts in the event of a failed container. Health checks are implemented using simple REST API health checks.
- Responsible for setting up and managing team development database and services using AWS EC2's
- **Tech Stack:** TypeScript/JavaScript (NextJS), Python (FastAPI, Pillow), Golang (Gin), Docker, Redis, Google Cloud, AWS, RabbitMQ

**Akseleran** | *IOS Mobile Engineer Intern*

(6 mo) Feb. 2023 – August 2023

Akseleran is a peer to peer crowdfunding platform that connects Indonesia's UMKM's with investors with a vision of providing inclusive financial services. In Akseleran, I worked as an IOS Engineer, focused on maintaining Akseleran's existing IOS app.

- Migrate Akseleran's IOS app features from Objective-C to Swift
- Wrote unit testing to improve testing coverage & logging to improve time to solve production issues.
- Reduce application size by 10MB by compressing image assets.
- **Tech Stack:** Objective-C, Swift, UIKit

**Pegipegi** | *Backend Engineer Intern*

(12 mo) Feb. 2022 – Jan 2023

Pegipegi is an online travel agency focused on promoting domestic travel. I was a Backend Engineer at Pegipegi, where I spent most of my time developing Pegipegi's new automated refund service with my team.

- Implement an automated refund service. This feature reduced the time to obtain some refund requests from hours or days to minutes.
- Initiate the rewrite of Pegipegi's flight schedule change notification service. This reduced the number of errors and unhandled exceptions in the service, which prevented flight schedule change notifications from being sent to users.
- **Tech Stack:** Java (Spring), Redis, MongoDB

**Bina Nusantara University** | *Software Engineer (Contract)*

(2 mo) July 2022 – Sept. 2022

I worked on the NuMed research project. A research project aimed at creating an AI-based telemedicine health application. I was tasked to integrate data from Garmin smartwatches to NuMed's web application.

- Integrate NuMed web app with garmin smartwatches.
- Used ChartJS to display user health data in NuMed web app.
- **Tech Stack:** JavaScript (ExpressJS), JavaScript (React), MongoDB

**Bina Nusantara University** | *C++ Data Structures and Algorithms Tutor*

(5 mo) Feb. 2022 – June 2022

- Taught sorting algorithms, search algorithms, data structures (stacks, queue's, trees and graphs).
- Taught a class consisting of 19 students, I held my own class, consisting of two classes a week, each class lasted 100 minutes.

**Monash University (Programming Bootcamp)** | *Programming Tutor*

(1 mo) Feb. 2021

- Taught variables, control structures, functions and basic sorting algorithms.
- Taught a class of 2 - 3 students, the basics of programming in Python.

## EDUCATION

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**Bina Nusantara University**

2021 – 2024

*Bachelor of Computer Science (Magna Cum Laude)*

*GPA: 3.90/4.0*

**Monash University - Australia**

2020 – 2021

*Bachelor of Computer Science*

*GPA: 3.50/4.0*

## PUBLICATIONS

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**SVGDoc: A CRDT for collaborative vector graphics editing** | *PCDS 2024*

A CRDT for vector graphics editing, that uses an operation log and an update wins map CRDT for decentralized editing of vector graphics documents. Presented at PCDS 2024 and available in [IEEE Xplore](#).

## ACHIEVEMENTS

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**Monash International Merit Grant** | *Monash University - Australia, 2020*

Upon my enrolment at Monash University I received the Monash Science International Merit Grant, due to my academic performance in my high school studies.

**Received congratulatory letters from lecturers** | *Monash University - Australia, 2021*

Due to my performance in my Mathematics classes, I have received congratulatory letters from lecturers recommending me to pursue further study in Mathematics.

**2nd Place in IMC Algorithmic Trading Competitions** | *Monash University - Australia, 2021*

The competition was held through a cooperation from MAC (Monash Association of Coding) and IMC Trading, a global trading & research firm.

## PERSONAL PROJECTS

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**Inktor** | *React, Rust, HTML Canvas* | 2024

A minimal web based collaborative vector graphics editor, leveraging CRDTs (Conflict-Free Replicated Data Types).

**Chatbyte** | *React, Rust, Zustand, Postgres* | 2024

A chat application, you can: upload images, create groups and see if your friends are offline or online.

**Minilinks** | *React, Golang, Gin* | 2024

A URL shortener, with a Frontend written in React and a Backend written in Go using the Gin Web Framework.