

BRYAN ELMER MULIJONO

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EDUCATION

National University of Singapore

Aug 20 – July 24

Bachelor of Engineering (BEng) in Computer Engineering (Honours Distinction)

- Deans' List Award (Top 5%) in AY2023/2024

EXPERIENCE

Back-End Engineer, Tetsuyu Healthcare

Jan 23 - Aug 23

- Spearheaded development of full-stack dashboards and forms for healthcare professionals, ensuring high performance and reliability using ASP.NET, VB.NET, C#, AngularJS, and Microsoft SQL (MSSQL)
- Implemented and deployed automated unit tests using Selenium C# within the CI/CD pipeline, significantly improving code quality and eliminating the need for manual testing
- Engineered 15+ core business RESTful APIs for the mobile app with cross-functional teams, enabling real-time access to patient medical records for nurses and doctors
- Optimized core business APIs, resulting in a 40% performance increase in viewing and exporting patient medical records
- Identified and resolved 100+ software defects, addressing approximately 40% of critical bugs, and integrating advanced data validation mechanisms such as constraint enforcement and cross-field validation to enhance system integrity
- Liaised with the CEO and Tech Lead to refine and implement project functionalities, aligning with business goals and client needs, resulting in positive feedback on execution and delivery

Full-Stack Developer, NUS-SU CommIT

Aug 21 - May 22

- Collaborated in a team of 4 while liaising with the director to brainstorm and implement solutions, consistently achieving 100% of weekly targets and contributing to overall project success
- Designed and built a logistics approval website using ReactJS and Django, streamlining claims approval process for NUSU

PROJECTS

Data Scientist, Citibike Ride Machine Learning Prediction Model

Aug 23 - Nov 23

- Implemented machine learning model using PySpark to accurately predict daily ride counts based on weather data
- Conducted data pre-processing and applied effective scaling techniques to optimize model performance
- Assessed and validated the model performance, leading to a high 95.5% predictive accuracy

Concurrent Systems Developer, Stock Matching Engine

Jan 23 - Apr 23

- Developed and engineered a high-performance stock matching engine in Go and C++, utilizing advanced concurrency and parallelism techniques to efficiently process orders
- Achieved order-level concurrency in Go by leveraging Goroutines and Channels, allowing engine to scale horizontally and process multiple client orders simultaneously, resulting in a 10x or more performance boost compared to serial execution
- Obtained instrument-level concurrency in C++ using unordered maps and fine-grained nested linked lists, significantly improving throughput and reducing latency by ensuring independent order matching across instruments

Parallel Computing Engineer, Task Runner Program

Jan 23 - Apr 23

- Formulated and built a highly efficient task runner in Rust, optimized through advanced concurrency and parallelism techniques
- Leveraged Tokio library to attain seamless and efficient multi-threaded execution of computationally intensive tasks
- Achieved linear memory usage optimization by utilizing lazy evaluation through depth-first search approach

Network Developer, AR Laser Tag Game

Aug 22 - Nov 22

- Developed robust communication protocols using Bluetooth Low Energy (BLE) technology that connected 6 Bluno Beetles to a central node, ensuring reliable low-power data exchange
- Identified and resolved BLE communication bottlenecks, leading to a 38% increase in system responsiveness and reliability

Network Engineer, Message Transfer Application

Aug 22 - Nov 22

- Planned and executed a TCP-based client-server socket program to facilitate efficient transfer of large messages
- Created a custom Jumping Window Protocol, ensuring reliable in-order delivery of 5k bytes of data in under 0.6ms

AI Algorithm Engineer, Mini-Chess AI

Jan 22 - Apr 22

- Engineered a Mini-Chess AI system capable of predicting the next optimal move based on current board configuration
- Implemented an advanced adversarial search algorithm featuring the minimax algo in Python
- Fine-tuned the algorithm by applying alpha-beta pruning, leading to an ~80% increase in performance

Software Developer, Fridge: A Widget for the Fridge

Aug 21 - Nov 21

- Designed and realized a CLI application in Java by utilizing OOP principles to streamline inventory tracking
- Devised and completed over 15 user stories, and conducted testing with JUnit framework
- Leveraged Gradle with checkstyle integration for robust build automation and Java code style enforcement
- Conducted thorough code reviews and optimizations, leading to a 25% performance increase

ADDITIONAL SKILLS

- Languages: English and Bahasa Indonesia (Native), Mandarin (Professional Working Proficiency)
- Skills: AI, Algorithm, Backend and Database, Machine Learning, Full-Stack Web Development
- Programming Languages: C++, Go, Python, Javascript, TypeScript, Rust, Java, SQL, C, C#, VB.net
- Technologies/Frameworks: NodeJS, ReactJS, NextJS, MongoDB, ExpressJS, Django, PySpark, ASP.net, AngularJS
- Software: Visual Studio, MATLAB, Microsoft Office Suite (Word, PowerPoint, and Excel), Unity, Vivado