

Muqaffa Al-Afham Bin Kamaruzaman

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EXPERIENCE

Software Engineer Intern, Klass Engineering & Solutions

Jul 2022 – Dec 2022

Technologies used: ReactJS, TypeScript, Flask, MySQL, Docker, C++, Python3, Nginx, ROS

- Designed and implemented ROS/ROS2 packages in C++ and Python, speeding up communication with our robot by 32%
- Developed state management API in Python in the team's backend stack to enhance synchronization
- Designed, modified and implemented ReactJS components, including a timestamp component and a side navbar component
- Conducted research on cellular decomposition, before independently implementing the Boustrophedon Cellular Decomposition algorithm in Python for our robot's path planning

EDUCATION

Nanyang Technological University (NTU)

Aug 2020 – Jun 2024

Bachelor of Engineering (Computer Science) – CGPA: 4.64 / 5.00 (Highest Distinction)

- NTU College Scholar
- Relevant Courses: Algorithms Design & Analysis (A+), Data Structures & Algorithms (A+), Operating Systems (A+), Object-Oriented Design & Programming (A), Computer Security (A), Introduction to Databases (A-), Software Engineering (A-)

National University of Singapore (NUS)

Jan 2022 – May 2022

Singapore Universities Student Exchange Program, granted to only 200 NTU students

- Relevant Courses: Parallel and Concurrent Programming, Computer Networks, Database Systems Implementation

Ngee Ann Polytechnic (NP)

Apr 2015 – Apr 2018

Diploma in Engineering Science – CGPA: 3.94 / 4.00

Diploma Plus in Advanced Engineering Mathematics

- Attained Director's List (Top 10% of cohort) in 3 Semesters: 1.2, 2.1 and 3.1
- CCA Gold Award

PROJECTS

GPace – Web App

Aug 2023 – Present

Technologies used: ReactJS, Bootstrap, Material UI, NodeJS, ExpressJS, MongoDB

- Independently developed a resource centre for helping computer science students ace their course modules. Resources such as summary notes, quizzes and videos are made available for a variety of modules such as Algorithms and Operating Systems
- Normal users can contribute basic resources, but only admins (e.g. Teaching Assistants) can contribute quizzes
- <https://github.com/Purifish/gpace-app>

Comprehend C++ – Web App

May 2023 – Present

Technologies used: ReactJS, Material UI, FastAPI, Gunicorn, PostgreSQL, Docker

- Part of a team that developed a website for learning Object-Oriented Programming in C++ interactively. Includes tutorials, quizzes, an online code editor, and an interactive game integrated with ChatGPT

BingeBuddy – Web App

Jan 2023

Technologies used: ReactJS, Bootstrap, Material UI

- Developed an app that recommends TV shows to the user. The app fetches real time information from TMDB APIs, and has an efficient search bar.
- View the app on <https://show-recommender-two.vercel.app/>

Dolphine – Mobile App

Aug 2021 – Oct 2021

Technologies used: React Native, Expo, Redux, MongoDB, Firebase, Express, NodeJS

- Part of a team that developed a commute application, similar to common bus apps available, but with added features
- Developed the backend API, database connections, and search algorithms
- Led the documentation
- [App Demo Video](#)

CERTIFICATIONS

Node, SQL, & PostgreSQL - Mastering Backend Web Development, Udemy

Oct 2023

React, NodeJS, Express & MongoDB - The MERN Fullstack Guide, Udemy

Feb 2023

TECHNICAL SKILLS

Languages

C++, Java, Python, JavaScript, TypeScript, C, Go, HTML, CSS, SQL, Bash

Frameworks / Libraries

ReactJS, Node.js, Express.js, ROS, ROS2, Flask, Bootstrap, jQuery

Tools

Git, MongoDB, PostgreSQL, MySQL, Docker, AWS, Vercel, Heroku, Firebase