ZAIDHAAN HUSSAIN | SOFTWARE ENGINEER

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Software Engineer passionate about solving problems with hands-on experience in developing applications deployed in the real world. Familiar with collaborating alongside others and built websites, desktop applications, API clients, chatbots and frameworks built around it. Determined to solve impactful problems and provide value to individuals and businesses at large.

TECHNICAL SKILLS

- **Programming**:
  - Comfortable: JavaScript *(Node.JS)*, HTML5, CSS3, PHP, Bash, Zsh, Vim, Regex
  - Familiar: Python, Java, C, C++, C#
- **Technologies**: Git, MySQL, Express.js, React, Next.js, Electron
- **Operating System**: Linux (Debian, Arch), Microsoft Windows

EDUCATION

Bachelor of Science in Computer Science (Hons)   Feb 2024 *(Expected)*
Management & Science University, Malaysia   CGPA: 3.91
President's List Award
Dean's List Award

Foundation in Information Technology   Nov 2020
Management & Science University, Malaysia   CGPA: 3.90
Dean's List Award

Cambridge IGCSE & GCE O Level   Nov 2018
Sharafuddin School, Maldives   Computer Science: A*
                                                                      Physics: A*
                                                                    Chemistry: A*

EXPERIENCE

KakiGolf, www.kakigolf.com   October 2022—Present
Freelance Software Engineer
- Developed a web scraping command line application in NodeJS to retrieve golf score card information from multiple sources into a single schema in JSON. Leveraged TypeScript to ensure type safety and strict adherence to the schema specifications.
- Tested resulting parsed JSON data using Jest to ensure stability and correctness.

Open-source Contributions   Jan 2023—Present
- Contributed to 25+ repositories on GitHub, including bug fixes, features, and documentation.
- **openai/evals** *(evaluation framework for language models, Python)*: Added custom evaluation dataset for evaluating GPT-4's performance on counting colors on a face of a Rubik's cube.
- **elk-zone/elk** *(mastodon client, Vue.js)*: Contributed several bug fixes and implemented feature to resize large image files before uploading to the server.
- **civitai/civitai** *(website to share Stable Diffusion models, Next.js)*: Updated Docker compose file to setup to include S3 storage (minio) and email (Maildev) for easier initial setup.
- **ncmpcpp/ncmpcpp** *(music player, C++)*: Fixed crash from an unhandled Music Player Daemon (MPD) server error.
- **Romkatv/powerlevel10k** *(shell prompt, Zsh)*: Added extra options to configure the prompt when node version manager (nvm) is used.

Malaysian Society of Cardiovascular Technologist, mscvt.my   Jan 2023
Freelance Software Engineer
- Updated the WordPress website to a modern look based on custom Figma designs done in collaboration with a friend.
- Identified and fixed issues with faulty plugins causing site to go blank.
- Restored access to WordPress account by directly updating MySQL user records with newly hashed password.
- Used cPanel to upgrade PHP version safely with backups created beforehand.

3E Training & Education Sdn Bhd, Kelana Jaya, Petaling Jaya   Jun 2022—Present
Freelance Software Engineer
- Automated corporate training report and certificate preparation for 319 individuals—estimated to take 3 months—within 1 week *(~90% quicker)* with Visual C# using the Document Interface provided by the .NET API.
- Developed and maintained website to survey and analyze client companies' employees on employee engagement to optimize workflow for trainings conducted, using the LAMP stack. Frontend had an admin dashboard with differing access levels utilized Tailwind CSS for design, and included interactive visualizations made using Chart.JS, extended using custom JavaScript canvas manipulation to meet strict design requirements.
- Maintained close contact with company director for meetings discussing functional requirements and weekly revision updates. Communicated technical limitations and issues in layman terms devoid of technical jargon.

Autonomous multi-drone network for disaster assistance   2023
* Bachelor's Final Year Project
- Built a web application using Next.js and React to display locations streamed from flying drones sent to an endpoint that updates location of disaster victims in real-time stored in RethinkDB and location event streamed to the frontend using Socket.js.
- Built an object detection model based on YOLOv5 fine-tuned on the HERIDAL dataset. Model was trained on the cloud using two Tela V100s using the service vast.ai.

MSU Host Picker web application   Dec 2022
- Built a React.js application for MSU Annual Dinner 2022 that provided an interactive interface to select the next host for the subsequent year's iteration of the event.

Semi-automated COVID-19 statistics updates to Wikipedia   Feb 2022
- Scraped statistical data using web requests and JavaScript DOM parsing.
- Utilized RegExp to substitute wikitext sections with relevant scraped data.
- Used jQuery to submit POST data through the Wikipedia API to push changes.

***YumaBot-Core* Discord bot framework**   Dec 2016 – Aug 2019
- Developed NodeJS framework to allow for easier development of Discord bots wrapped around the Discord API framework Eris published as an NPM package.
- Code structured to allow for high configurability and extensibility by using Node.js modules for each command or plugin. Designed to be fail-safe with hot-reloading built-in and useful messages logged when encountered.
- Package received a total of ~3.5k downloads, peaking at 1,054 downloads in 2017.

***Xavio* Discord bot**   Jun 2016 – Jun 2018
- Multi-functional Discord bot with 50+ unique commands interacting with various third-party APIs (Google, Soundcloud, YouTube), also capable of streaming music in voice channels, hosted on the Heroku cloud platform.
- Heavily relied on asynchronous operations handled using Promises.
- Featured on bot list website leading growth into 5,000+ servers connected to 100,000+ users, requiring sharding thus creating multiple Discord API connections to handle heavy load.

***OwO.js* (file hosting & link shortening service) library collaborator**   Dec 2016
- Helped develop wrapper library in NodeJS published as an NPM package.
- Made use of Node APIs for reading file streams, and third-party libraries for handling HTTP requests and Promise handling.

EXTRA-CURRICULAR ACTIVITIES

Conducted *"Data wrangling with grep, sed, and awk"* talk   Jun 2022
- Organized for Computer Forensics Club, audience consisting of club members.

- Explained anchors, quantifiers, and character classes with regards to RegExp.
- Walked participants through a live demo of each tool and covered widely used flags.

Committee for *"Programming Quiz & IT Kahoot Quiz"* event   Jun 2022
- Prepared quiz questions related to HTML/CSS, JavaScript, and Linux.
- Discussed results of quiz and walked through answers.

ExxonMobil Digital Pathfinder event participant   Apr 2022
- Learnt use of IT, analytics, and engineering in the oil and gas industry to establish secure and efficient systems with light environmental footprint.
- Selected for "speed networking session", allowing for exchange with ExxonMobil employees on questions about work and the industry.

PROFESSIONAL DEVELOPMENT

Machine Learning, Stanford Online
Taught by Andrew Ng
Introduction to machine learning covering supervised and unsupervised learning using the GNU Octave programming language. Built neural networks capable of recognizing numbers from scratch among various other projects.

LANGUAGES

English: Grade A in IGCSE English as a Second Language

INTERESTS & HOBBIES

Interests: Electronics, Physics, Mathematics.
Hobbies: Coding, Contributing to open-source, Drawing, Piano, and listening to Music.

REFERENCES

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