Derrick Tay Zhi Rong

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As a chemical engineer-turned-software engineer, I leverage my analytical prowess and adaptability to excel in dynamic, fast-paced environments. Combined with an entrepreneurial mindset, I drive innovation and effective solutions, making me a versatile and impactful contributor to software engineering projects.

EDUCATION

Nanyang Technology University   **Aug 2021 - May 2025 (Expected)**
Bachelor of Engineering (Chemical and Biomolecular Engineering) with Minor in Computing and Data Analysis

PROFESSIONAL EXPERIENCES

The Logic Coders | *Teacher*   **Mar 2021 - Dec 2023**
- Taught over 30 students, aged 8 and up, in drag-and-drop and python programming
- Conducted meetings with students' parents to gather feedbacks and discuss ways to improve students' learning
- Trusted to design personal curriculum for 5 students, receiving positive feedbacks from students and parents

Elitely | *Software Developer*   **Mar 2022 - Aug 2022**
- Spearheaded discussions with founders and developers to prioritize tasks and sprints for MVP development
- Collaborated with 3 developers to design and deploy MongoDB schemas for storing user data while leading the implementation of user authentication and file storage with AWS Amplify and S3
- Led a team of 2 developers in managing the application's database and backend

TheMatrix.SG Pte. Ltd. | *Full Stack Developer Intern*   **Dec 2022 - Sept 2023**
- Designed and implemented API endpoints with Nest.js, incorporating file handling and CRUD operations with Prisma ORM and PostgreSQL
- Created comprehensive unit tests with 90% coverage with Jest testing framework
- Engineered automated tasks including email sending with Google Cloud Tasks, cache clearing with cronjob, and project setup with terraform, Gitlab CI/CD and Google Cloud Services

Amplified Industries (Boston, USA) | *Full Stack Developer and Data Intern*   **Jan 2024 - Jul 2024**
- Initiated technical documentations covering project architecture, codebase structure and development workflows, ensuring clarity and consistency in project understanding.
- Improved data visualization by researching and implementing high-contrast colour schemes in charts utilizing SQL queries, custom SQL functions and C# Entity Framework
- Integrated Slack API and playwright into CI/CD pipeline to streamline end-to-end testing and enabling seamless file sharing, enhancing collaboration and productivity

PERSONAL PROJECTS

Birdex 🔗
- Built a full-stack website with CRUD framework to keep track of different bird species and their weight
- Integrated Chart.js for insightful data representation and analysis

Instant Messaging Service with RPC 🔗
- Employed Golang and Kitex to design a HTTP and an RPC server for communication and data transfer between the two services
- Orchestrated application deployment using docker for consistency and portability across different environments
- Performed load, stress and concurrency test with Jmeter

Machine Learning Project on the Analysis of Singaporean Olympian Performance 🔗
- Executed data preprocessing and transformation to pinpoint factors affecting an Olympian performance.
- Implemented Decision Tree Classifier for advanced analysis and predictive insights based on the input features

SKILLS & LANGUAGE PROFICIENCY

Frontend	**Backend**	**Databases / SQL + Cloud**
Typescript, Javascript, ReactJS, NextJS, HTML, CSS, Bootstrap	Express.js, NestJS, Django, Flask, ASP.NET, Go	MySQL, PostgreSQL, AWS S3, MongoDB, AWS, GCP, Docker