

ALASTER ALFIO ZHENG

Software Development Student

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Education

Republic Polytechnic - Digital Design and Development

Apr 2023 - Sep 2026

- cGPA 3.74
 - Director's Roll of Honour AY2023 S1
 - Director's Roll of Honour AY2023 S2
 - Director's Roll of Honour AY2024 S1
 - Director's Roll of Honour AY2024 S2
 - HackStart Club, EXCO Training VP (2024)
 - SOI Shenzhen SOT (2024)
 - Beta Werks Scholarship (2025)
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Experiences

Land Transport Authority - Software Developer Intern

Mar 2026 - Jul 2026

- Engineered a fully automated end-to-end gradient processing pipeline from raw LiDAR point clouds, covering centerline stitching, outlier/seam-jump filtering, and slope computation, eliminating a previously manual geospatial workflow.
- Led a full-stack UI/UX redesign of PSAT, applying gestalt and visual hierarchy principles to reduce navigation steps and improve usability flagged during UAT sessions.
- Proposed and built a polygon-based planning area selection feature using GIS shapefile layers, enabling assessors to scope cycling path assessments spatially instead of by manual road selection.
- Designed a multi-user profile and project management system to support safe, isolated multi-user deployment across shared department devices.
- Restructured team engineering practices by introducing Git version control, Jira ticket tracking (100+ tickets), and shared-access documentation, accelerating projected delivery from December to end-July.

MOBOT SG - IT Web Developer / E-Commerce Manager

Sep 2025 - Dec 2025

- Managed over 50 unique, high-value products, with 30,000SGD in sales and over 50 orders per month.
- Engineered custom back-end integrations for the Shopify platform, enabling global order fulfillment and scalable business operations.
- Built and designed high-converting landing, navigation, and product pages using custom HTML and Shopify Liquid, enhancing user experience and engagement.
- Automated customer service by developing a chatbot via n8n and Zapier, improving response time by 240% and reducing routine inquiry tickets by 80%.

The Brainery Code - STEM Instructor

Apr 2025 - Aug 2025

- Taught programming and game development to students aged 4-16 using platforms such as Roblox Scripting, Minecraft Education, Scratch, and EduBlocks, adapting content to different age groups and learning speeds.
- Conducted hands-on robotics lessons using LEGO Spike Prime and LEGO Essentials, helping students develop skills in logic, engineering, and teamwork.
- Provided guidance and support to students preparing for competitions, contributing to the centre's success at the 2025 RoboCup U12 Grand Prix, where all 3 participating teams placed 1st, 2nd, and 3rd.

UPFUE SG - E-Commerce Product Manager

Dec 2022 - Dec 2023

- Spearheaded the management of over 20,000 e-commerce products, ensuring seamless product catalog management, categorization, and optimization for search engine, resulting in a 33% increase in clients.
- Employed data-driven strategies to analyze product performance, identify trends, and make informed decisions regarding product development, pricing, and promotions.

Projects and Commitments

Final Year Project - KK Women's and Children's Hospital

n8n, Python, JavaScript

- Developed a responsive web-based chatbot for nurses to provide instant access to clinical guidelines and medical calculators, leveraging Natural Language Processing (NLP) and semantic search to streamline bedside decision-making.
- Architected the system's middleware logic to manage data routing between the NLP engine and clinical databases, ensuring high-speed retrieval of precise information and accurate execution of medical calculations.
- Designed and implemented a mobile-optimized interface focused on high-pressure clinical usability, integrating interactive learning features such as gamified quizzes and clinical scenarios to support ongoing professional development.

DSTA BrainHack 2025 CODE_EXP - Scamateur

C++, C#, JavaScript

Finalist

- Led ideation, and project management for a gamified solution promoting safe online behaviour to combat scams, encouraging users to think before clicking and empathise with victims through an interactive grassroots volunteer experience.
- Architected and pushed development across the full stack in GameMaker, managing the SDLC and bridging team skill gaps through active mentorship to deliver a complete, production-ready submission under tight hackathon constraints.

NTU 3rd Kumar Sustainability & Innovation Prize - GreenLocks

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Top 11 Globally

- Conceptualized and researched a platform to connect hair donors with salons for sustainable ocean cleanup efforts.
- Promoted circular economy approaches and collaborated on refining the project for competition.

Service Learning, Sparks @ Canberra

Electronics

Volunteer

- Taught classes of students aged 7-10, to understand the basic concepts of electronics through LittleBits.
- Helped to troubleshoot technical errors and explained conceptual details of specific components to the students, such as the inner workings of a pulse timer and a variable resistor.

National AI Prompt Design Challenge 2024

Prompt Engineering

Finalist

- Learnt and used the proprietary AI development software, Capabara.
- Designed an AI chatbot that enhances day-to-day activities in a school environment, helping students better cope with studies and assisted parents in connecting better with their child.
- Focused on AI Prompt Security, using adversarial input detection, data poisoning prevention, and rate limiting, creating a prompt that was unable to be breached by judges.
- Took charge of prompt development and managed workload distribution to my team.

Skills

- **Computer Languages:** MongoDB, MySQL, HTML5/CSS, JavaScript, Python, C#, C++
- **Tools:** Git, GIMP, Adobe Photoshop, Adobe Illustrator, Power BI, Figma, Unity, GameMaker, Tableau
- **Skills:** Adaptive Problem-Solving, Mentorship & Facilitation, Technical Communication, Cross-functional Leadership, Independent Learning, Time Management & Prioritisation, Stakeholder Management

Prominent Certifications

Python Institute - Python Certified Entry-Level Programmer (PCEP)

Microsoft - Build .NET applications with C#

RoboCup Federation - RoboCup Co-Space Champion 2020