

ELROY CHUA MING XUAN

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A collaborative Software Engineer and aspiring Solutions Architect with over 2 years of TypeScript development and cloud expertise. I thrive in diverse projects, committed to team success bridging technical and business needs for impactful solutions

EXPERIENCE

Associate Software Engineer II

Mar 2024 – Present

Ensign InfoSecurity

Singapore

- Led development of high-traffic Outlook add-in serving 200+ users, implementing Redis caching and load balancing optimizations while coordinating ML integration for enhanced functionality
- Improved performance for enterprise application by implementing scalable architecture and persistent filtering, achieving 200x data processing improvement and saving 3 minutes per user session – translating to thousands of hours saved annually
- Assisted in critical database migration from Postgres to SingleStore database migration, optimizing query structures and indexing strategies that delivered \$20K annual savings while significantly improving response times
- Designed and implemented cross-platform security suite (Chrome/Edge/Outlook) with anti-phishing, deepfake detection, and threat analysis capabilities, culminating in showcase presentations at major security conferences
- Built integrated security toolkit for SOC analysts in collaboration with ML/Data teams, featuring automated threat detection, real-time deepfake prevention, and streamlined phishing response workflow

Full Stack Software Engineer Intern

Aug 2023 – Feb 2024

Ensign InfoSecurity

Singapore

- Led IP monitoring platform modernization with Express/Next.js in 3 months, optimizing database performance to achieve 100% faster rendering and 66% improved async processing
- Built global threat visualization platform using PERN stack, implementing CI/CD and iterative UX improvements that enabled successful enterprise security suite integration
- Integrated security monitoring tools across enterprise platforms with automated deployments, enabling seamless demonstrations at major industry events like Govware
- Established DevSecOps practices through automated SAST/SCA tools and test coverage, achieving 80% faster workflows and enhanced security for containerized applications

Full Stack Developer Intern

Nov 2022 – July 2023

GetPaid SG

Singapore

- Resolved critical frontend issues in payment portal through systematic debugging, achieving 50% reduction in support tickets and 71% faster issue resolution
- Optimized user management APIs and automated data handling, reducing onboarding time by 75% and improving merchant integration scalability

CERTIFICATIONS

AWS Certified Solutions Architect Associate

Oct 2024

Certificate ID: 81767497c381402f8a4c7887d21d9507

EDUCATION

Bachelor of Computer Science, Big Data

Oct 2021 – Mar 2024

University of Wollongong - SIMGE

Grade: 79.42 (Distinction)

PROJECTS

Schemes SG [[site link](#)]

Dec 2024 – Present

- Volunteering as a Software Engineer to improve UI and migrate systems from Schemes V1 to V2, empowering Singapore residents to easily discover over 300 public assistance schemes from government and non-profits. Stack: Python, Next.js

Edutech web app [[site link](#)]

Jun 2023 – Mar 2024

- Led design and implementation of frontend infrastructure of an edutech app, focusing on serving digitized exam practice papers to secondary students in Singapore. Stack: Azure APIM, Azure Functions, Next.js, Supabase, Opensearch, CosmosDB

SentinelVote [[repo link](#) | [documentation link](#)]

Oct 2023 – Feb 2024

- Developed a full stack e-voting app using linkable ring signatures for final year project, enhancing blockchain security and sustainability, earning a Distinction grade. Stack: D3.js, Next.js, Hyperledger, Go, Linkable Ring Signature

SKILLS

Programming Languages: TypeScript, JavaScript, Java, Python

Frontend: React, React Native, Next.js, Tailwind CSS, D3.js, Redux

Backend: Express.js, Node.js, TypeORM, Nest.js

Databases: PostgreSQL, MongoDB, Redis, SingleStore

DevOps: Git, GitHub/GitLab CI/CD, Docker, Kubernetes, AWS

LEADERSHIP EXPERIENCE & INTERESTS

Kingdomcity Connect Group Leader & Guitarist: Led and expanded groups, fostering communication and interpersonal skills

SIM Data Analytics Club & IT Club: Analyst and subcommittee member, involved in internal projects and student leadership

Digital Content Creator: Share tech insights and personal development content, engaging with 2K+ followers across platforms

Music & Acting: Over 9 years of live performance experience and featured in commercials