W I L L I A M   N G U Y E N

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EXECUTIVE SUMMARY

Having strong background, passion and experience in software systems. A detail-oriented engineer with experience developing resilient systems and a strong foundation in software development fundamentals, seeking to contribute to cross-functional teams.

SKILLS

Programming

JavaScript/TypeScript, C/C++, Java, Python, React Native, React.js, Node.js, SQL.

Cloud & Serverless Architecture
- Solid experience with AWS serverless technologies(Lambda, API Gateway, AppSync, DynamoDB).
- Proficient in designing and implementing scalable AWS cloud infrastructures.
- Experience with CI/CD pipelines and infrastructure as code(Terraform, SAM).
- Familiar with security best practices for cloud deployments(WAF).

Cross-Platform Development
- Strong experience developing mobile applications for iOS and Android using React Native and Expo.
- Experience with database design, complex queries, stored procedures, and data migration(PostgresSQL).
- Proficient in building web applications with Next.js.
- Understanding of cross-platform architecture patterns and performance optimization.
- Understanding of networking in distributed systems.

EXPERIENCE

Software Systems Engineer, Convergence Medical   Brisbane, Australia   Nov 2024 – Apr 2025

Lead design and implementation of an enterprise healthcare platform enabling secure communications between V01 surgical arthroscopic robots and clinical staff across multiple devices.
- Architected multi-layered system with discrete components including client layer, API/authentication layer, clinical services, and security/compliance layers, creating a highly scalable and maintainable codebase.
- Engineered secure authentication system with enterprise-managed registration using AWS Cognito and custom IAM roles, enhancing HIPAA compliance and reducing security vulnerabilities.
- Developed offline-first capabilities with conflict resolution for clinical environments, ensuring consistent application availability even with intermittent connectivity issues in operating threater.
- Implemented FHIR/HL7 healthcare standards integration using AWS HealthLake, enabling data exchange with existing hospital systems.
- Built React Native/Expo cross-platform application with secure Peer-to-Peer(P2P) communication between surgical devices and clinician interfaces, substantially reducing surgical procedure setup time.
- Designed and deployed comprehensive serverless backend with Lambda functions, DynamoDB, and AppSync GraphQL, optimizing infrastructure costs compared to monolithic architecture.
- Collaborated closely with mechanical, medical, electrical engineers and product team to create accessible features that aligned with high engineering standards and best practices.
- Implemented and maintained unit, integration, and load tests to ensure reliability and performance of Convergence Medical platform, achieving highest coverage and preventing regressions across multiple feature releases.

Undergraduate Research Assistant, UQ Cyber   Brisbane, Australia   Aug 2023 – Jun 2024

Developed autonomous system security frameworks for multi-robot environments, focusing on attack detection and mitigation strategies.
- Designed and implemented DOS attack modeling system for multi-robot testbeds using Python and Kalman filter algorithms.
- Enhanced attack detection threshold through optimized estimation algorithms validated on Robotarium testing platform.
- Conducted thesis research on cyber threat modeling techniques for multi-robot teams with focus on physical layer security.

Developer Intern, IO Stream   HCM City, Vietnam   Jun – Dec 2022
- Developed C++ 11 library for image processing with the deep understanding of generics type implementation.
- Maintained RESTful APIs using Node.js and TypeScript for company web application.

PROJECTS

SpamOverflow   UQ – 2024

Developed a scalable email filtering service using a microservices architecture on AWS, capable of processing up to 10,000 emails per minute. Implemented infrastructure as code using Terraform, enabling consistent and repeatable deployments.
- Implemented MySQL database normalization techniques and optimized SQL queries to handle high-volume email metadata storage and retrieval.
- Leveraged AWS Lambda for serverless email processing, reducing operational costs compared to traditional EC2 instances.
- Integrated AWS SQS for asynchronous processing, ensuring zero message loss during traffic spikes of up to 20,000 requests per minute.
- Utilized AWS ECS with Docker for containerized microservices, improving scalability and reducing deployment time from hours to minutes.

EDUCATION

University of Queensland   Queensland, Australia   Jul 2022 – Jul 2024
Bachelor of Engineering(Hons) - Major: Software Engineering

CERTIFICATIONS

AWS Certified Developer – Associate (Link)