

Professional Summary

I'm a high-impact software engineer renowned for rapidly architecting scalable, enterprise-grade solutions that convert complex challenges into tangible business outcomes. Starting my career immediately after Polytechnic, I swiftly rose to lead critical engineering initiatives at ByteDance and Pixium Digital, building mission-critical backend systems that serve over **180,000 global users**. At ByteDance, my mastery of distributed system principles, JavaScript (Node.js), Go, Java, and advanced **Redis caching** delivered substantial operational efficiencies, trimming development costs by **67%**. At Pixium Digital, I spearheaded strategic infrastructure optimisations—boosting web application performance by **62.5%** and accelerating deployment times by **80%** through **Terraform and Docker**. Certified in **Data Science and Machine Learning from MIT-IDSS** and currently pursuing a **part-time BIT degree at NUS**, I pair relentless curiosity with hands-on expertise across cloud platforms (**AWS, Terraform, Docker**) and DevOps practices. Thriving in fast-paced, complex environments, I galvanise cross-functional teams to deliver innovative, reliable, and cost-effective software that propels business growth.

Experience

Software Engineer, Project Manager — ByteDance

December 2023 – Present

- Architected and delivered large-scale enterprise solutions** on ByteDance’s internal Feishu App Engine using **JavaScript (Node.js), Go, and Java**, supporting mission-critical HR, finance, insurance, and legal applications, servicing over **180,000 global employees** and reducing manual processes by up to **600-800 man-hours monthly per project**
- Drove requirements analysis and system design**, acting as the key liaison between business stakeholders and technical teams; translated complex business requirements into scalable software solutions (e.g., Human Capital Management (HCM), legal workflows, HR automation), achieving user adoption rates consistently above **75%**, significantly exceeding internal benchmarks
- Designed and deployed **high-performance backend services** using **distributed architecture principles, Message Queues, and Redis-based caching**, resulting in latency reductions of over **50%** and achieving system uptimes of **99.95%** for large-scale transactional operations, directly improving operational reliability
- Pioneered reusable low-code modules and frameworks**, enabling rapid feature rollouts and integrations, reducing project development timelines by approximately **40-50%**, thereby significantly accelerating business responsiveness and internal innovation
- Optimised operational workflows by implementing innovative low-code solutions, achieving nearly **67% cost reduction** compared to traditional development, saving the business approximately **500-700 man-hours per month per major project**, fostering agile innovation and substantial cost efficiencies
- Led internal training and knowledge-sharing initiatives**, mentoring junior engineers on best software engineering practices and technical architecture, improving project delivery speed by up to **30%** across the engineering team

Full Stack Software Engineer, Tech Lead — Pixium Digital

March 2021 – December 2023

- Led full-stack projects in Elixir/Phoenix, JavaScript/TypeScript/React, and PHP/Yii2**, achieving 100% on-time delivery
- Automated deployments using Terraform**, accelerating environment setup and releases by **80%**
- Managed **Docker-based PHP/Nginx/PostgreSQL environments**, enhancing stability and reducing downtime by **70%**
- Designed **advanced data schemas**, improving integrity and reducing data processing time by **50%**
- Optimised MySQL/PostgreSQL queries**, boosting analytics dashboard performance by **62.5%**
- Developed detailed **technical documentation**, cutting support queries by over **40%**
- Maintained **80% client satisfaction rate**, securing repeat business and revenue
- Oversaw **UAT**, reducing deployment defects by **60%**
- Mentored junior engineers**, improving code quality and reducing bugs by nearly **30%**

Full Stack Software Engineer Intern — Pixium Digital

September 2020 – February 2021

- Developed robust **web and mobile apps** in **Docker-based environments**, boosting efficiency and client retention
- Built **Flutter-based mobile solutions**, integrating APIs, surpassing client expectations by **20%**
- Executed rigorous **User Acceptance Testing (UAT) and API testing**, cutting defects by over **40%**
- Crafted detailed **technical documentation**, improving team productivity by up to **30%**
- Designed **efficient data schemas**, reducing query times by **25%**
- Deployed scalable **Docker-powered WordPress sites**, reducing deployment effort by nearly **50%**
- Enhanced project management skills with **agile methodologies**, streamlining client interactions

Education

Bachelor of Information Technology — National University of Singapore

July 2025 – 2030

- Actively pursuing a **part-time BIT degree at NUS** to sharpen my technical edge and broaden architectural depth — driven by a belief that the best engineers never stop learning

Diploma in Information Technology — Singapore Polytechnic

April 2018 – May 2021

- Specialised in **UI/UX Design** and **Data Structures & Algorithms**, building strong foundations for software engineering
- Delivered a **Java-based full-stack final-year project** for Sentosa Development Corporation in a collaborative five-member team
- Created promotional design assets as an active SP Arts Council member, enhancing event engagement using Adobe Illustrator and Photoshop
- Recognised consistently as a standout performer with SP Vocal Talents, achieving multiple awards at local and international competitions

Projects

Elixir — Phoenix Framework

- Revolutionised a client's workflow by engineering an advanced file management system with a nuanced search algorithm ([AWS Textract integration](#), [Levenshtein & Lemmatisation](#)), achieving a complete shift from manual to automated processes and leading to a 80% productivity boost
- Developed and scaled a responsive web application with an integrated [RESTful API](#), utilising product identification API, [FFmpeg](#) and [ImageMagick](#), resulting in a 60% efficiency increase in business operations
- [Architected a comprehensive internal company platform](#), encompassing performance reviews, leave and remote work scheduling, sales pipelines, and room booking utilities. Seamlessly integrated a [WhatsApp bot](#) and an internal activity dashboard, collectively boosting organisational efficiency and streamlining employee workflows
- Streamlined the [room booking process](#) for a top-ranked engineering university in Asia by architecting a responsive and intuitive system, resulting in a marked elevation of user efficiency and user satisfaction rates

PHP — Yii2 Framework

- Innovated a multi-faceted web platform amalgamating [messaging, friendships, and payments](#), thereby enhancing user interaction and financial transactions within the ecosystem
- Conceived and executed a robust training platform with dynamic [scheduling and traceable lesson logistics](#), substantially improving training efficiency and oversight capabilities
- Pioneered a cutting-edge digital dashboard that provides [real-time data analytics](#), specifically focused on agricultural operations like farm analytics, leading to informed decision-making for stakeholders
- Engineered and launched a game engine featuring seamless [Zoom integration](#), winning significant client acclaim

TypeScript

- Designed and developed a [real-time web-based game](#) using [TypeScript](#) and [Socket.IO](#), significantly boosting organisational cohesion and promoting team collaboration

Dart — Flutter

- Orchestrated a comprehensive mobile application centered around farmers, seamlessly integrating task management with [IoT-enabled animal health analytics](#), thereby revolutionising agricultural practices
- Conceived and launched an engaging sports prediction mobile application in [Dart \(Flutter\)](#), leading to a remarkable 50% increase in user adoption and engagement rates within a short timeframe

Java – Academic Projects

- Digital Service and Incentive Platform for Sentosa Development Corporation (SDC)
- Spearheaded the full-stack development of a multi-role digital platform using Java and NetBeans IDE
- Architected a user management dashboard with CRUD functionalities, enhancing administrative workflows
- Implemented a dynamic announcement and notification system to facilitate seamless communication
- Engineered a point-based incentive system with feedback mechanism for improvement and user engagement
- Amplified user experience through the inclusion of web-based mini-games and a rewarding redemption feature

Certifications and Awards

Data Science and Machine Learning: Making Data-Driven Decisions – MIT Schwarzman College of Computing

January 2024

Completed an advanced course on [Data Science and Machine Learning](#), focusing on transforming complex datasets into actionable insights. This certification highlights my ability to leverage machine learning techniques to make data-driven decisions, essential for optimising business processes

Credential ID: PYCYNIRT

3rd Place in Final Year Project: Digital Service and Incentive Platform – Sentosa Development Corporation (SDC)

January 2018

[Achieved 3rd place](#) for a project that was recognised among the top 10 in the Singapore Polytechnic 2018 cohort. This project involved designing a comprehensive digital platform for the company, effectively demonstrating my expertise in requirement gathering, leadership, and the delivery of innovative solutions in a competitive environment

Skills

- **Programming Languages:** Python, Elixir, JavaScript, Bash, TypeScript, Dart, Kotlin, Java, PHP
- **Frameworks & Libraries:** Node.js, Phoenix, LiveView, Yii2, React, Flutter, Tailwind CSS, Vue, jQuery
- **Web Technologies:** HTML5, SCSS, CSS
- **Databases & Management:** MySQL, PostgreSQL, Firebase Realtime Database, DynamoDB, MariaDB, TablePlus, MySQL Workbench
- **Infrastructure, DevOps & CI/CD:** AWS, Terraform, Docker, Redis, Grafana, Nginx, Apache, Git, GitHub, Jest, Postman
- **Tools & Data Formats:** Trello, Markdown, JSON, YAML
- **IDEs & Editors:** Vim, Cursor, Trae, Visual Studio Code, Android Studio, NetBeans
- **Operating Systems:** macOS, Linux
- **Other:** FFmpeg, ImageMagick, Figma, AdobeXD, Vibe Coding, Prompt Engineering, ChatGPT, DeepSeek, Doubao, Claude, Gemini, Kimi, Meta AI