RYAN GOH CHUANG HONG

MECHANICAL ENGINEER | SOFTWARE ENGINEER

CONTACT

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Petaling Jaya, Selangor

https://github.com/ry4ngch

SKILLS

• Software & Web Development:

Full-stack web development, real-time APIs, GPS tracking systems (PHP, Zend Framework, JavaScript, ReactJS, Ionic, HTML, SCSS)

• Frontend Development & UI/UX:

Cross-platform interfaces, responsive web apps, data visualization

• Backend & Databases:

MySQL, API design, real-time data pipelines, CRUD operations, API testing (Postman)

• Engineering & Product Development:

CAD modelling (Inventor, SolidWorks), mechanical design (PVElite, CAESAR II), FEA & CFD analysis (ANSYS, NozzlePRO), product prototyping, certification support (ASME U-Stamp, IP65)

Process & Workflow Automation:
 Automated workflows for design and reporting
 (VBA, Python, MATLAB, R, iLogic, Inventor API)

EDUCATION

University of Nottingham 09/2014 - 07/2018 M.Eng-Masters In Mechanical Engineering (Hons) GPA 3.5, 2nd Upper Class

KDU University College 03/2013 - 06/2014 Cambridge A-Levels

Completed A-Levels for the following subjects: Advanced Mathematics, Mathematics, Chemistry, Physics

CERTIFICATION

- Static Design
 - Certificate in ASME Sect. VIII, Div 1 (Lloyds' Register)
 - Certificate in Piping Flexibility and Stress Analysis (IDC Training House)
- Data Science
 - Certificate in Data Analysis with Python (IBM)
 - Certificate in Data Science and Machine Learning (MIT IDSS)
 - IBM Machine Learning Professional Certificate
 - Certificate in Machine Learning with Python (IBM)

PROFILE

Multidisciplinary engineer with 2+ years in software development and 6+ years in mechanical design, product development, and CAD automation. Experienced in building real-time web APIs, cross-platform apps, and GPS-integrated systems, alongside stress analysis and process optimization. Focused on backend development, UI/UX improvement, and creating software solutions that integrate with real-world products. Seeking opportunities in software engineering, SaaS, or tech-driven innovation.

WORK EXPERIENCE

Mechanical Engineer

DFINITI Technologies Sdn Bhd, Selangor

May 2021 - Current

- Designed and executed mechanical stress analysis and engineering for over 60 ASME Section VIII Division 1 pressure vessels and electric immersion heaters, including hands-on development of detailed calculation reports, 2D/3D CAD models, and structural integrity checks to ensure full code compliance.
- Built and deployed a design automation tool using VBA and Power Query, directly developing logic and coding the tool to reduce proposal turnaround time by 40% and improve cost estimation accuracy.
- Produced detailed engineering drawings and layouts in SolidWorks and AutoCAD, personally generating ASME U-forms, design calculations, and material requisitions for client submission and fabrication.
- Independently reviewed and validated structural and piping calculations for three major skid systems, applying ASME B31.3 and AISC standards to verify compliance.
- Provided both technical leadership and hands-on execution in material selection, PWHT procedures, and impact testing recommendations, directly contributing to a 20% improvement in project success rates.
- Developed standardized CAD templates and component libraries, personally developing these assets to reduce design time by 50% while ensuring consistency.
- Prepared and submitted complete mechanical documentation for ASME U Stamp renewal, managing both the technical content and audit documentation for successful certification.
- Conducted in-depth technical reviews of material and production test certificates, ensuring strict adherence to ASME codes and project specifications.
- Personally handled complex mechanical issues, performing root cause analysis and implementing corrective actions that led to a 30% reduction in recurring design and fabrication problems.

Mechanical Design Engineer

Jutasama Sdn Bhd, Selangor

Sept 2018 - Nov 2020

- Executed complete stress analysis and mechanical design for pressure vessels, heat exchangers, columns, and ducting, meeting ASME VIII (Div. 1 & 2), PD5500, API 660, TEMA, and WRC 107/297 requirements.
- Performed FEA on nozzles, saddles, and support structures using NozzlePro, PVElite, COMPRESS, and manual methods, validating local stresses and optimizing designs for safety and efficiency.
- Built 3D CAD automation tools in Autodesk Inventor (API/iLogic), reducing design time and eliminating repetitive errors across multiple projects.
- Reviewed and corrected fabrication drawings and 3D models, ensuring strict compliance with ASME codes and client specifications while guiding drafters through technical requirements.
- Provided technical input during tendering, conducting preliminary strength checks and material assessments to improve proposal accuracy and competitiveness.
- Developed comprehensive engineering spreadsheets and authored technical specifications for PD5500 projects, ensuring full compliance and inspector approval.
- Resolved complex stress and design compliance issues with third-party inspectors, JKKP (DOSH), and clients, resulting in smooth approvals and project progression.
- Handled DOSH license renewals and audit documentation directly, ensuring continued certification through hands-on technical preparation.

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LANGUAGES

English	
Malay	
Chinese	

PROFESSIONAL MEMBERSHIP

- Institute of Engineers Malaysia (Graduate Engineer)
- Board of Engineers Malaysia (Graduate Engineer)

REFERENCES

Michael Chin Jian Ji	
CEO, Pinetop Technologies PLT	
(+60)18-226 3008	

Jacob In Tai Aun

Lead E&I Engineer/Project Manager, DFINITI Technologies Sdn Bhd

(+60)16-3981285

WORK EXPERIENCE

Web Developer

Pinetop Technology PLT

June 2015 - Dec 2017

- Designed and developed web APIs for a bus tracking system and job-seeker platform using PHP and Zend Framework, seamlessly interfacing with MySQL databases and integrating JWT authentication for secure admin panel access.
- Engineered intuitive UI/UX designs for websites and hybrid web applications using HTML, CSS, JavaScript, AngularJS, and the Ionic Framework, delivering seamless and engaging user experiences across platforms.
- Developed real-time GPS tracking functionality by leveraging the Google Distance Matrix API, enabling precise vehicle location tracking and efficient route planning.
- Integrated Google Analytics to monitor and analyze website performance metrics, visualizing key insights on admin dashboards.
- Led hybrid web development initiatives, creating cross-platform solutions optimized for performance, responsiveness, and usability.
- Managed continuous deployment cycles, performing integration testing and code optimization for cross-platform apps.
- Engineered backend data pipelines for GPS tracking, ensuring real-time synchronization and system scalability
- Utilized Postman for API debugging and testing, streamlining endpoint validation and ensuring efficient, bug-free APIs.

Research & Development Engineer (Intern)

FEISCO Security Equipment Sdn Bhd

July 2016 - Sept 2016

- Transformed 2D civil engineering drawings into accurate 3D CAD models, optimizing for production efficiency and manufacturability.
- Spearheaded DFMA application, significantly reducing assembly time and enhancing production workflows.
- Led prototyping of custom 3D-printed enclosures for electrical circuits, accelerating development and testing.
- Developed and integrated responsive UI for registry system with AngularJS, Bootstrap, HTML, and CSS, connected to a Django backend.
- Engineered backend solutions with Postgres and MariaDB for seamless CRUD operations, optimizing frontend API performance.
- Researched LDAP and legacy database integration for Django, improving data management and system compatibility.
- Installed and configured critical server infrastructure, integrating FTP, Djoser, phpMyAdmin, MySQL, and Django on CentOS and Ubuntu.

PROJECTS

- Real-Time Bus Tracking Platform Built API backend and cross-platform frontend integrating GPS data for real-time fleet tracking.
- Job Seeker Web Platform Developed secure admin portal with JWT authentication, user matching system, and database management.