

# Chai Ming Ren John

john\_chai@mymail.sutd.edu.sg • 2311 Bowditch St, 94704 CA • (510) 365-1088 • johnch.ai  
linkedin.com/in/john-chai-2b7bb8153 • github.com/theliewasacake

## Education

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**UC Berkeley Extension** Berkeley, CA  
*Full Time Certificate Program in Immersive Program in Entrepreneurship* Jan 2026 – May 2026

**Singapore University of Technology and Design** Singapore  
*BEng, MSc in Engineering Product Development & Technology Entrepreneurship* Sept 2023 – May 2028

- GPA: 4.52/5.0; Awarded SUTD STEP Scholarship
- Relevant Coursework: Engineering Design Innovation, Systems & Control, Structures & Materials, Circuits & Electronics, Computational Structures, Computational & Data Driven Engineering, Entrepreneurship

**NUS High School of Math & Science** Jan 2015 – Dec 2020  
*NUS High Diploma in Major in Physics (with Honours), Majors in Math and Computer Science*

## Work & Leadership Experience

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**CTO and Co-Founder** Singapore  
*PolyMate Private Limited* Mar 2024 – present

- Leads product R&D for novel filament drying technology
- Led development of various client projects including low-cost lab equipment design
- Developed Maker Skills workshops for 900+ participants in STEAMunity program

**Space Systems Engineering Intern** Singapore  
*Aliena Private Limited* Sept 2025 – Dec 2025

- Developed novel simulation using circuit analogy for Propellant Management Assembly (PMA) on MUSIC Hall-Effect Thruster
- Developed automated data collection and signal processing deconvolution pipeline for PMA component impulse response extraction to validate simulations
- Supported PMA design, manufacturing, and troubleshooting for satellite engineering model, revealing better component choices for future designs

**Founder, SUTD Space Bar (Aerospace Interest Group)** Singapore  
*Singapore University of Technology and Design* Jan 2025

- Founded aerospace interest group with 100+ members
- Interest group carried out 2 successful rocket launches within 6 months

**Armament Technician, Corporal First Class** Singapore  
*Singapore Armed Forces* Jan 2021 – Nov 2022

- Led team of technicians maintaining armored vehicle fleet, ensuring operational readiness
- Awarded Best Soldier of the Month (Nov 2021) and 2x Commanding Officer Coin for exemplary performance

## Projects

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**30.007 Engineering Design Innovation Course Project** Singapore  
*Singapore University of Technology and Design* May 2025 – Aug 2025

- Led a team of 7 students to develop curb and stair climbing powered wheelchair using front wheel drive layout to manage weight distribution
- Fabricated full-scale prototype demonstrating climbing with 50kg load and field-strip capability for transport and maintainability

**Autonomous local LLM reminder agent** Jan 2026 – Apr 2026

- Self-hosted a local Qwen model to automate reminder generation Telegram bot from company meeting minutes
- Built a Python pipeline with read-only minutes access to parse actionable items, update a custom dashboard state, and trigger reminders

**VEXU Robotics Competition, SUTD Organization of Autonomous Robotics (SOAR)***Singapore*

- Developed control algorithm for novel 2-wheel holonomic swerve drive as Software Team Lead deployed at VEXU Asia Open Signature Event
- PID + state machine controller for 2-wheel swerve to apply setpoint correction and mode-switching for predictable stop behavior
- Designed compact scoring system within tight space constraints as hardware subsystem designer deployed at VEXU World Championships

*Dec 2024 – May 2025***NUSHSat***Jan 2020 – Dec 2020*

- Founding member coordinating subsystem teams for 1U CubeSat for image capture & transmission; mentored Chassis subsystem
- NUSHSat-1 successfully launched in 2025 as the first highschool CubeSat in Asia

**Skills, Activities & Interests**

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**Languages:** Fluent in English and Mandarin**Technical Skills:** CAD: Autodesk Fusion, SolidWorks, Blender; PCB Design: KiCAD; Manufacturing: 3D Printing, CNC, Laser Cutting; Programming: C++, Python, C, Java, JavaScript, SQL**Activities:** Project Advisor & Software Lead for SOAR (2024-2025); President of SUTD Chinese Orchestra (2024)**Interests:** Additive manufacturing, CNC, robotics, and aerospace systems; built and restored CNC routers & 3D printers