Shawn Chan

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Penultimate year Engineering student, available for Winter and Summer Internships

EDUCATION

Nanyang Technological University **Aug 2021 – Dec 2025**

B.Eng.Sc(Mechanical Engineering) & MSc (Technology Management), Minor in Computer Science

- Attained Cumulative Grade Point Average (CGPA) of 4.60/5.00. (Projected Honours - Highest Distinction)
- Sophomore at NTU pursuing the Renaissance Engineering Programme (REP), NTU's flagship direct Masters Engineering Programme with full ride-on scholarship
- **Relevant Coursework**: Optimisation Theory, Mechatronics, Control Theory, Heat Transfer, Solid Mechanics and Vibration, Thermodynamics, Thermo-fluids, Mechanics of Materials, Fluid Mechanics, Operating Systems, Databases, Computer Security, Data Structures, Efficient Algorithms and Intractable Problems

Anglo Chinese School (Independent), International Baccalaureate (IB) Programme **Feb 2017 – Oct 2018**

'IB' Level Certification

- Achieved 44/45 points for the IB final year examinations, 7s for all Higher-Level subjects (Physics, Mathematics, and Chemistry)

WORK EXPERIENCE

Software Engineer, Bank of New York Mellon **June 2024 – October 2024**

- Constructed proof of concept applications as a full-stack engineer for internal tools used by the bank's businesses
- Collaborated with UI/UX designers to implement 6 key features in Angular, TypeScript, HTML, SCSS, Redux
- Designed and implemented backend, REST APIs, and OAuth2 authentication using Django framework
- Built and refined 8 key APIs to pipe and collect data for a future AI model
- Participated in daily stand-ups and working according to Scrum methodology

R&D Engineer, Defence Science Organisation, Aerial Robotics **May 2023 – July 2023**

- Conceptualised and designed a novel, compact, and lightweight drone that can be manufactured in a single print
- Leveraged ANSYS, to analyse chassis design, ensuring structural rigidity
- Utilised Solidworks to create CAD models of the drone and its components
- Worked within given weight and size constraints to bring total frame part count to 3 pieces
- Achieved weight savings of 16% and a 2.4 Factor of Safety for the drone's frame

AWARDS & ACHIEVEMENTS

2nd Runner up, Singapore Amazing Flying Machine Competition (SAFMC) **Feb 2022 – Mar 2022**

- Developed, tested, and refined algorithms to control a modified drone using hand gestures in C and Python
- Designed housing and hardpoint components for the team's drone using CAD and manufactured via 3D printing
- Let development of various payload capture mechanisms

2nd Runner up, ASEAN Data Science Explorers **Aug 2021 – Feb 2022**

- Pitched and devised a progressive policy system to encourage sustainability in ASEAN SMEs
- Generated insights from raw data using SAP Analytics to understand the financial and environmental trends of ASEAN SMEs

CO-CURRICULAR ACTIVITIES

Space Enterprise at Berkeley **Aug 2023 – November 2023**

- Using Python to simulate the dynamics, forces, and performance on rockets

Co-head, Makers Lab **Aug 2022 – May 2023**

- Lead a club of 33 members within REP to learn and employ practical engineering skills taught in the club
- Organising and coordinating projects for the club's members to refine their hardware and software design skills

PROJECTS

BenchSafe

- Designed and constructed an IoT device to help users determine the optimal bench location when conducting a bench press
- Used Fusion360 to design a custom housing for electronic components, enabling quick access during prototyping
- Applied Design For Assembly (DFA) principles to improve R&D experience for the team
- Dealt with tolerancing for screws and other components in the device

2D Tile Game

- Designed and built a 2D tile-based game from scratch in Java
- Applied Object Oriented concepts to optimise the use of classes by abstracting features
- Implemented and coded Binary Space Partitioning algorithm from scratch to generate random worlds based on a given number
- Lead architecture and design decisions of a state machine to handle game logic
- Pair programmed with another student to increase efficiency

SKILLS, INTERESTS

- **Skills**: Go, Python, C, Java, JavaScript, TypeScript, SQL, HTML, CSS, Django, Flutter, Dart, React, Go, Angular, Git, Pandas, Arduino, SolidWorks, ANSYS, Fusion360, ROS2
- **Interests**: Drawing, software projects, reading, 3D printing tools/items