

JOSHUA NICK TAN

joshuanicktan@gmail.com • +65 9050 4141 • linkedin.com/in/joshuanicktan

EDUCATION

Bachelor of Engineering, Engineering Product Development, Singapore University of Technology and Design Minor in Design, Technology, and Society (DTS) Student Honours and Research Programme (SHARP) GPA: 4.66/5	Sept 2021 — May 2025 (Expected)
International Honors Program, Stanford University Summer Session SUTD Global Leadership Programme	July 2022 — Sept 2022
Diploma in Engineering Science, Ngee Ann Polytechnic Automation and Mechatronics Systems Specialisation Diploma Plus — Certificate in Advanced Engineering Mathematics Certificate in Further Mathematics for Engineering Science GPA: 3.93/4	Jan 2016 — Apr 2019

SUTD – FIFTHROWS/APPOINTMENTS

Academic Pillar Representative – 7th Student Association Council, AY23/24 Engineering Product Development
Multi-Rotor SUTD (Drone), AY23/24 Publicity Director
Undergraduate Teaching Assistant – 3.007 Intro to Design (Spring 2022), 10.014 Computational Thinking for Design (Fall 2022)
House Guardian (Residential Assistant)
10th ROOT – Student Government, AY22/23 Director of ROOTech
University Ambassador, AY22/23 Training Director
SUTD Organization of Autonomous Robotics (SOAR), AY22/23 Publicity Director
Mechanical Designer Club (MechD), AY22/23 Fusion 360 Director

AWARDS

SUTD Global Distinguished Scholarship
SUTD Student Achievement Awards AY22/23

- Student Service Award, Outstanding Student Organisation Award – SUTD Organisation of Autonomous Robotics, Outstanding Student Organisation Award – Freshmen Orientation Committee 2022

Ngee Ann Polytechnic Engineering Scholarship
Temasek Foundation Specialists' Community Action and Leadership Exchange

WORK EXPERIENCE

Fabrica.AI — Mechanical Design and Hardware Intern, SGInnovate Summation <ul style="list-style-type: none">Designed parts and modified existing designs for DFM and DFA to increase rate of overall robot productionWorked with electrical and software team to integrate proposed improvements in CAD	Aug 2023 — Dec 2023
Sparklife — Robotics Part-time Trainer <ul style="list-style-type: none">Facilitate mBot and micro:bit workshops/enrichment programmes for secondary school studentsRun robotics CCA trainings in secondary schools, teaching problem solving skills and block-based programming	Nov 2018 — Dec 2021
ASEAN Youth Organisation — Programme Developer <ul style="list-style-type: none">Organised and ran inaugural ASEAN Youth Exchange, an 11-day programme bringing youths across SG-TH-IDModerated panel discussions with international entrepreneurs and NGOs, discussing various socio-economic challengesConducted workshops on leadership, entrepreneurship, and design thinking	Mar 2019 — Aug 2019
LIONSBOT International Pte. Ltd. — Mechanical Systems Intern <ul style="list-style-type: none">Designed and created test rigs for various steps in the production of cleaning robots to help troubleshoot various components and subsystems, expediting the manufacturing process by automating troubleshootingExtension of research work done in SUTD on the development of polymorphic Tetris-inspired cleaning robots after presenting prototype to other researchers from overseas universities and statutory boards	May 2019 — Aug 2019

- Taught English and Science (Primary 4 and 5) at Tampines Primary School under MOE's Poly-Teaching Internship Programme
- Designed science lab lessons for P4 and 5 special development programme to teach investigative and analytical skills

COMPETITIONS

RoboClash 2022 | Food Rush

Dec 2021 — Jan 2022

- Designed robot in Fusion 360 and used various techniques (3D printing, laser cutting) to fabricate an Arduino based robot from scratch with a team budget of \$200, using mostly recycled materials
- Tournament 1st Alliance, EPD Design Award

Engineering Science Robotics Club — Builder/Designer

May 2016 — Oct 2018

- Designed, built, and programmed robot to complete a mission with various tasks
- National Robotics Competition, Tertiary Division (NRC, formerly NJRC)
 - 1st Mechanical Design, 2nd Presentation (2017), 1st Programming (2016)

SST Robotics@Apex — Lead Builder/Designer, Robot Controller

Feb 2012 — Nov 2015

- Designed, built, and programmed robots for international competitions
- Conducted demonstrations and exhibitions for visitors such as PM Lee and overseas educators
- World VEX Robotics Championship, Louisville, Kentucky (2015)
 - Judges' Award (Design), Sportsmanship Award, Qualification 9th Seed, Middle School Qualifier Robot Skills Rank 16, Programming Skills Rank 4
- Asia-Pacific VEX Robotics Championship, Guang Zhou, China (2014)
 - Robot Design Award, Overall Tournament 2nd Runner-Up, Qualifier Round 5th Seed
- Singapore VEX Robotics Championship
 - Tournament Runner-Up (2014), Robot Design Award (2014), Qualification 4th Seed (2014), 2nd Runner-Up Programming Skills (2013)
- FIRST Tech Challenge, Singapore (2013)
 - Tournament Runner-Up, Promote Award, Judges' Award (Design), Qualification 2nd Seed, Overall Best Performing School Award

PROJECTS/EVENTS/PROGRAMMES

Ongoing Projects

Present

- 3D Food Printing Ink with food waste – Student Researcher

Click&Go: Automatic Smart Bike Lock — 30.007 Best Prototype Award

Feb 2023 — May 2023

- Turned the normal 30 second operation of locking/unlocking into 3 seconds, hands free
- Designed and manufactured a prototype out of aluminium and a carbon fibre shell with Biometric, GPS, Bluetooth, LoRa, or mobile app unlocking

SUTD Night Fiesta 2023 | UltravioLIT — Organising Committee

Mar 2023

- Organised public event to showcase SUTD student life in a more informal setting, involving over 50 clubs and student organisations setting up booths and doing performances

RoboClash 2023 | Trash Dash — Organising Committee, OIC

May 2022 — Jan 2023

- Planned and organised university wide robotics competition for 21 teams
- Hosted workshops to upskill participants, teaching engineering skills to first year students

Robotics Line Tracing Workshops — Organiser

Jan 2022 — Present

- Planned and hosted introductory workshops for students using Arduino line tracing robot kit
- Host workshops for university outreach to prospective SUTD students

Behaviour Control for Bio-Inspired Underwater Soft Robots — Student Researcher

Feb 2022 — Apr 2022

- Designed and implemented a swim bladder using liquid-gas phase change to achieve vertical and pitch control for a batoid inspired viscoelastic robot
- Prototype was successful in utilising dead space on existing underwater vehicle without the need for heavy modification

Multi-Robot Collaboration — Student Researcher

Sept 2021 — Nov 2021

- Used ROS to implement SLAM on wheeled robots

Ngee Ann Poly Ambassadors — Student Ambassador | EXCO AY2017/18

June 2016 — Mar 2019

RED Camp — Chief Student Leader (2017&18) | Marketing Committee (2016)

Nov 2016 — Nov 2018

S. Rajaratnam Youth Model ASEAN Conference — Organising Committee

Aug 2018 — Oct 2018