

Dion Tan

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EDUCATION

Singapore University of Technology and Design

May 16 to present

- Bachelor of Engineering (Honours) Engineering Product Development (EPD) - Robotics Track
- Magna Cum Laude, 2nd Upper Class Honours
- High Performance Athlete Scheme Sponsorship
- Expected Date of Graduation: Sep 2019

Zhejiang University, Asian Leadership Programme

May 17 to Aug 17

- Appointed leader in-charge of a group of 98 students to settle all administration and finance matters
- Attended company tours at various MNCs like the Yamaha Corporation and Changan Ford Hangzhou Plant
- Awarded by the Centre of Excellence for outstanding performance in the Asian Leadership Programme 2017

Temasek Junior College

Jan 12 to Dec 13

- EAGLES Award 2012 and 2013 Recipient
- Captain of the Swimming Team and received Colours Award for excellence in Swimming

Anglo Chinese School (Independent)

Jan 08 to Dec 11

- O Levels: 5 Distinctions
- Certificate of Merit from 2008 to 2011

WORK EXPERIENCES

Precision Medical, Technical Intern

May 18 to Aug 18

- Developed a graphic user interface (GUI) using MATLAB and conducted data analysis for their medical device prototype
- Shadowed a few related surgeries to understand more on the requirements and uses of the project
- Represented the company in Tech Planter Singapore and led the team into the finals, out of 169 teams across six countries

SUTD, Teaching Assistant

Jun 18 to Aug 18

- Conducted weekly night lessons in mathematics, physics, chemistry and biology for 100 freshmores
- Ensured that all of them clearly understood the concepts and passed their exams

National Service, Artillery Institute Trainer

May 14 to Mar 16

- Oversaw a Battalion of 150 NSmen and 35 Specialist Cadets in their training, building up their discipline and proficiencies
- Directed my detachment successfully and safely in mission operations at an overseas exercise in Waiouru, New Zealand

ACADEMIC PROJECTS

SUTD, Machine Element Design – iRobot Roomba

Sep 18 to Dec 18

- Reverse engineered the robot to understand the mechanical considerations and loadings on the various machine elements
- Performed FEA using Fusion360 to determine the relevant safety factors and possible failures
- Drew part drawings including BOM and exploded view to demonstrate the assembly of parts

SUTD, Dynamics – Spinning Mass

Sep 18 to Dec 18

- Developed a mathematical model of a spinning mass and conducted numerical analysis to gain insight of its behaviour
- Simulations were conducted using MATLAB before building a spinning mass system for experimental results
- Integrated data collection using an Arduino and IMU which logs and automatically plot IMU readings on excel

SUTD, Topics in Biomedical and Healthcare – Sleep Apnea

Sep 18 to Dec 18

- Researched on the disease state fundamentals and existing solutions of sleep apnea
- Identified the treatment gap and generated a new concept to address the issue

SUTD, Engineering Design Innovation Project – Smart Tyre

Jan 18 to May 18

- Conducted research on the advantages and disadvantages of soft robotics to understand its potential
- Cooperated with a team of 6 in identifying the market needs and constraints
- Designed a vehicular tyre that could change its shape, adapting to different environmental and climatic conditions
- Placed in-charge of casting the tyre and the implantation of sensors for feedback and control

ZJU, Muscle Computer Interface – Muscle Language**May 17 to Aug 17**

- Applied human computer interface technique using electromyogram to read electrical pulses triggered by the firing of neurons during muscle control
- Combined the IOT device, Raspberry Pi with the MYO band to receive and filter electrical signals to transmit audio output through firebase and bluetooth modules
- Successfully created a technology to translate military hand signals into audio commands with finger combinations

ZJU, Design Thinking & Expression – Origami Robot**May 17 to Aug 17**

- Observed the “animal” or “biological” world and analysed their movement modes to simulate it with origami
- Implemented design methods, mechanical principles, programming and paper folding skills to create an origami robot, turning abstraction into reality

SUTD, Design Project - Orthopaedic Cast for Forearms**Sep 16 to Dec 16**

- Conducted an anatomical study of the forearm and explored materials that were breathable, cheap and light yet waterproof, strong and sturdy
- Liaised with 3 researchers in the Biomedical and Material Science field to conceptualise on the design aspect and material options for the cast while keeping its functionality
- Designed a new Orthopaedic Cast with Fusion360 and 3D printing technology

Sumo Robocon – Robot Design Competition**Aug 16 to Aug 16**

- Cooperated with a team of 8 in analysing competition parameters and requirements, formulating strategies and tactics for gameplay and optimising the constructed design to achieve the best results
- Adapted to different scenarios and utilised contextual information to accomplish the task
- Used Fusion360 to model the robot and ran simulations to test its efficiency and durability

CO-CURRICULAR ACTIVITIES AND ACHIEVEMENTS**SUTD Aquatics, President****Dec 16 to Dec 18**

- Managed a group of 40 members and organised swimming lessons to promote swimming, resulting in a 200% increase in members, up from 20 in 2015
- Brought SUTD's 1st medal for the Singapore University Games. Coached and led the relay team to a 3rd place finish

SUTD Student Achievement Awards, Laurel Award**Dec 16 to present**

- Nominated for 3 individual and 1 group Laurel Award for bringing honour and recognition to the University. This award recognises students who are committed to continuous learning and personal growth and for being an inspiration to their peers

Swimming Achievements**Jan 14 to present**

- Represented Singapore at the World University Games 2017, an event that is one level below the Olympics
- 5-time Fina World Cup Athlete
- Achieved 3 Silver and 4 Bronze medals at the Singapore University Games from 2016-2018

Military Awards**May 14 to Mar 16**

- Won 3 Best in Physical Training Awards in BMT, SCS Foundation Term and SCS Professional Term
- Selected as Company Platoon Best in SCS Foundation Term
- Awarded Best Detachment in SCS Professional Term
- Honour Graduate in SCS Professional Term
- Nominated by superiors for outstanding contribution to the Artillery Vocational Training School

SKILLS/ADDITIONAL INFORMATION

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| • CAD Software: Fusion 360, BOM, Solidworks, Rhino | • Adobe Photoshop, Illustrator, Premier Pro |
| • Python, MATLAB, Latex | • Microsoft Word, Excel, PowerPoint |
| • Arduino, Raspberry Pi | • English and Chinese (written and spoken) |
| • Experienced with Filming, Storyboarding, Directing | • Waterjet Machining, Laser Cutting, 3D printing |
| • Fabrication Tools | • Machine Learning, PyTorch, MNIST |
| • Soft Robotics Casting | • Excellent Leadership, Teamwork, Communication skills |