**Ng Zhen Hao**

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### EDUCATION

**Singapore University of Technology and Design (SUTD) Singapore**

* Bachelor of Engineering (Engineering Systems and Design) **May 18 to Present**
* Expected Minor: Information Systems Technology and Design Minor
* CGPA (as of Jan 2020): 4.63
* Expected Date of Graduation: August 2021

**Global Distinguished Programme, SUTD California, USA**

**Stanford University Jun 19 to Aug 19**

* Courses taken: Economics and Origin and Development of the Cosmos
* Scored an A- and A respectively, and full marks on the Origin and Development of the Cosmos research project on amino acids in outer space.

### ACADEMIC PROJECTS

**Singapore University of Technology and Design Singapore**

**Participant, Math Modelling Challenge Mar 20 to Mar 20**

* Researched and built a math model to optimize the shape of the sandcastle foundation to lengthen its durability.
* Simulated a sandcastle’s destruction using Python which successfully predicted the optimal shape for a sandcastle.

**Data and Business Analytics Singapore**

**Data Analyst, Population Density Prediction Sep 19 to Dec 19**

* Analyzed and visualized more than 1 million population data provided by Teralytics, a data science startup that provides mobility solutions, on Kaggle using Python.
* Researched and implemented time series models such as ARIMA and Holt-Winters’ Seasonality model that scored 20% lower on the root mean square error than the baseline (naïve) model.

**The Digital World Singapore**

**Developer, OrderNow Jan 19 to Apr 19**

* Designed a mobile application with Python, Google Firebase and Kivy to solve the issue of large mealtime crowds in the SUTD canteen by allowing staff and students to pre-order takeaway food before mealtimes.
* Wrote the Python program for the stall owner’s mobile application which receives orders from the students.
* Designed and built a locker to allow stall owners to place the cooked food, secured with an electromagnetic lock that can only be opened by the customer with the correct code sent together with the order chit to their smartphone.

# Introduction to Design Singapore

# Team Member, HandBurger Sep 18 to Dec 18

* Designed a computer game using Unity and built a handheld controller to motivate patients who require physiotherapy and encourage early recovery.
* Optimized the game controller’s ergonomics with surveys of people and statistical modelling to prevent fatigue from long hours of use.
* Produced a video introducing the HandBurger using Adobe Premiere Pro as part of the project exhibition with more than a hundred people coming to our group’s exhibit.

### WORK EXPERIENCES

**People’s Association Singapore**

**Kaki Bukit Community Centre, Receptionist Mar 18 to May 18**

* Attended to the requests and queries of more than 20 Kaki Bukit residents per day.
* Translated English letters to the many non-English speaking residents of Kaki Bukit and assisted them with filling forms.
* Managed the administrative work of the community centre to ensure the smooth running of facilities.

### Singapore Armed Forces Singapore

**39th Battalion Singapore Combat Engineers, Chemical, Biological and Radiological Defence Pioneer Apr 16 to Nov 17**

* Underwent training to respond to chemical, biological and radiological threats in Singapore’s key installations.
* Secured and checked areas for any terrorist threats like explosives that undermine national security during national events like the National Day Parade and National Day Rallies.
* One of the 20 selected from a pool of 60 people to attain a rank of Corporal First Class

### CO-CURRICULAR ACTIVITIES

### Singapore University of Technology and Design Singapore

### SUTD Productions, President Nov 18 to current

### Currently leading 7 executive committee members in SUTD’s videography club to change the club direction into encouraging the production of more creative content by engaging members in mini-film projects.

### Researched for and conducted 3 workshop sessions to impart knowledge about filming and video-editing techniques to members of the club.

### Designed and planned camera angles for a video titled ‘The Other Half” that is submitted to a nationwide film competition, nuSTUDIOS Point And Shoot 2019, which garnered about 1000 views on YouTube.

**SUTD Productions Singapore**

**Freshmore Orientation 2019, Coordinator and Videographer Mar 19 to May 19**

* Led 20 people in the Productions team during SUTD Freshman Orientation 2019 for event coverage.
* Coordinated with the SUTD Orientation Committee to film and produce the teaser videos leading up to Orientation, as well as to help them in the event coverage for three days.

**Science and Math Singapore**

**Advanced Math II, Undergraduate Teaching Assistant Sep 19 to Dec 19**

* Facilitated a cohort class of 50 and a help session class of about 25 students every week to explain mathematics concepts and problem-solving techniques to them.
* Graded and gave feedback to students about their homework and projects.

### ADDITIONAL INFORMATION

* Technical Skills: Adobe Premiere Pro, MS Office, Python, SQL, R, basic machine learning
* Fluent in English and Mandarin
* Enjoys reading about science and math.