

## EDUCATION

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### Singapore University of Technology and Design

Class of 2016

Bachelor of Engineering with major in Information Systems Technology and Design.  
Focus Tracks: Security and Communications, Artificial Intelligence.

## WORK EXPERIENCE

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### Research Assistant at iTrust Research Center for CyberSecurity

Nov'16 - Oct'17

Developed and implemented a network protocol library to reproduce packets of Common Industrial Protocol for Secure Water Treatment (SWaT) testbed to be utilized for various simulations in research.

- Analyzed and reconstructed CIP packets for both TCP and UDP section using wireshark.
- Designed and implemented an API for the package using TDD and SOLID principles of OOP.
- The library was used in a CaptureTheFlag competition in an international inter-university competition for SecureCyber-Physical(Scy-Phy) Systems Week.
- Developed, deployed, and maintained a webchallenge in AmazonEC2 for the competition.
- Used linux containers, uniquely mapped to each team, to run privileged code in a secure way.

### Web Developer at Souschef

Oct'16 - Jan'17

Developed a configuration panel which takes user input, stores in a DB, and uploads them across multiple remote machines(prototypes).

- Improve my knowledge in the fundamentals of JS, Express, and TDD. A part-time adventure.

### Teaching Assistant at General Assembly

Aug - Sep'16

Assisted instructor to help teach the basics of web development from scratch.

- Taught CLI, git, HTML, CSS, Javascript, and Express to students.
- Managed multiple tasks which included analyzing project codes and programming tests.

### Web Developer Intern at Tinkerbox Studios

May - Aug'15

Programmed backend functionality and wrote test cases for projects following agile methodology.

- Practiced TestDrivenDevelopment using Ruby-on-Rails.
- Worked on models, views, and controllers and wrote/refactored their new/old tests.
- Implemented simple front-end interactive pages.

## PROJECTS

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### Social Project for Children with Autism

Sep'16 - Nov'17

Designed a new curriculum to teach programming and simple robotics to special needs children.

- Analyzed the students initial performance by taking several tests which measured their memory and sequential task handling abilities.
- The curriculum used Edison robot to provide the visual interface for programming and Lego bricks as a simple building block for robotics and integrates them.

### Capstone Project - Interactive Animatronic Dragon

Jan - Aug'16

Established a network to transfer data between multiple sections of a prototype of an animatronic dragon which detects users in its peripherals and performs action

- Implemented an ad-hoc network with static IP for P2P connections between two RaspberryPi.
- Developed a state machine to categorize different outputs according to user inputs.
- Used Open CV to detect user movement to be used as inputs for the state machine.

### Web Development - Non-academic University Project

Dec'15 - July'16

Create a platform for a booking system of graduate students seating.

- Developed the platform using Laravel and hosted in university server.

### SKILLS

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Python, Javascript, Ruby, Java, C, CSS, HTML, MySQL, PostgreSQL, Rails, Flask, Laravel, OpenCV, Linux

### ACTIVITIES

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**External Involvements** - NUS XCTF 2016, Finalists for APEX Business-IT Global Case Challenge 2016, SG50 Hackathon 2015 Smart Nation, Secretary for University Photography Club.

**Interests** - Photography, Running, Non-Profit Social Events, Exploring Culture, CaptureTheFlag, Network Security, Physical Systems Security, Linux, Arch and Emacs.