LEE JIA YI   Email: jiayilee97@gmail.com   Mobile: +65 83077373

EDUCATION
National University of Singapore (NUS)   **Aug 2016 – present**
- Bachelor of Engineering in Electrical Engineering, Honours
- Expected Date of Graduation: May 2020
- Current Commitment: Studying
- GitHub: https://github.com/jiayilee97
- Personal Website: leejiayi.net
- Fluent Languages: English, Mandarin, Hokkien, Malay

WORK/ACADEMIC EXPERIENCE
Lead Author, Needle Detection Research   **2018-2020**
- Used PyTorch to train a LinkNet-based model that achieved real time 86% accuracy in predicting needle trajectory during an ultrasound biopsy
- Awarded Faculty of Engineering Research and Innovation Silver Award in 2019
- 2019 eMedic Competition Finalist
- Research paper written in Overleaf's LaTeX format was accepted in the 2020 International Journal Computer Assisted Radiology[1]

Intern, Rockwell Automation   **2019**
- Develop a RSLogix-based application that allows Rockwell employees to remotely monitor product tests by controlling a camera using a Universal Robot arm
- The application is coded in structured text, ladder logic and MS Excel Macros

Lead Developer, EGSC Coin Detecting Machine   **2019**
- Designed and 3D-printed a coin recognition machine to teach mentally-disabled students from MINDS how to handle cash transactions when purchasing goods
- The Arduino-controlled machine can sort Singapore coins of any denomination

Lead Product Maker, IEEE Hackathon   **2019**
- Created a perfect pitch trainer using Arduino to help piano students develop accurate note hearing skills

Research Assistant, NUS Bioelectronics Lab   **2018**
- Set up an AWS IoT to gather the bluetooth data from a Raspberry Pi cardio module and upload the data onto a DynamoDB via NodeJS so as to monitor patient heart in real time

Intern, Panasonic R&D Centre   **2018**
- Trained a Caffe model that detected abnormal driver behaviour in real time with 93% test accuracy

Developer, Hwa Chong Museum App   **2014**
- Developed an interactive Adobe Flash software that lets visitors at Hwa Chong's museum listen to the school songs, view the music score and read the school history digitally

EXTRA-CURRICULAR ACTIVITIES
Volunteer, Casa Clementi Mentoring Program   **2019-2020**
- Tutor underprivileged students in Math, Science and English

Tutor, NUSSU Chariteach   **2019**
- Taught Primary School students how to make a program using Scratch

Volunteer, SG Kaki   **2019**
- Help new NUS international students get acclimatised to Singapore

---

1 **Lee, Jia Yi,** Mobarakol Islam, Jing Ru Woh, TS Mohamed Washeem, Lee Ying Clara Ngoh, Weng Kin Wong, and Hongliang Ren. "Ultrasound needle segmentation and trajectory prediction using excitation network." *International Journal of Computer Assisted Radiology and Surgery* (2020): 1-7.

Lights Manager, Raffles Hall Musical Production   2016-2017
• Controlled the spotlights for hall production at University Cultural Centre
Member, Raffles Hall Meteor Workshop   2016-2017
• Raffles Hall videographer for Inter Hall Games Track & Field Finals
Volunteer, Penang Adventist Hospital   2016
• Raised funds, packaged NaCl tablets, sorted medical records, checked bakery stocks
Secretary-Treasurer, Hwa Chong Track & Field ExCo   2014-2015
• Planned a fund-raising car wash and facilitated an induction camp for juniors
Organiser, Very Special Arts (VSA) Project   2014-2015
• Teach mentally-challenged students how to weave rattan baskets
Member, International Student Scholar Committee   2014-2015
• Planned a farewell party for seniors
Math Tutor, Beyond Social Services   2014
• Taught Maths to financially under-privileged Singaporean Primary School Students
Student, Hwa Chong Malay Special Programme   2012-2013
• Grade A1 for O-LEVEL Malay
• Achieved 1st prize in 2012 Hwa Chong Malay mBoggle Competition
English Tutor, Hwa Chong Beijing Satellite Campus   2012
• Taught English to poor rural primary school students in Beijing
High Jumper, Hwa Chong Track Team   2010-2014
• 2nd place in 2014 Singapore National Inter-School Track & Field Championship

ADDITIONAL INFORMATION

• **ASEAN Undergraduate Scholarship:** obtained to study in NUS for 4 years
• **Modules taken in NUS:**
  √ EE2012: Used Python to model exponential/logarithmic distribution
  √ EE2024: Used assembly language to find min, max, variance, mean
  √ EE2024: Used C to code baseboard microcontroller
  √ EE2020: Used Vivado HDL to create different types of sounds on FPGA
  √ EE2031: Created own analog device that can mix, amplify and filter sounds
  √ EE2032: Created own Yagi-Uda Antenna from scratch
  √ EG2301: Used Autodesk Fusion to create a virtual Sweeping Pan
  √ EE3731C: Implemented Monte Carlo Algorithm to decrypt encrypted text
  √ EE4212: Used Matlab to implement semantic segmentation, stereo reconstruction, texture blending, image compression via Singular Vector Decomposition
  √ CS2040: Implemented an AVL tree and Single Source Shortest Path algorithm
  √ CG3207: Used Keil and Vivado to create a pipelined processor
  √ EE4211: Used K-means clustering to detect abnormal gas consumption
  √ CG2271: Real-Time Operating System
  √ EE4204: Network and Communications
• **NodeJS**: developed a server that gets weather data and dynamically updates the html page of a client
• **Android Studio**: developed a scenario-based role-playing game
• **Advanced Design System**: simulated electrical circuitry for an antenna
• **LTSpice**: simulated an electrical filter so as to develop a sound mixer
• **Hwa Chong Defence Science Research**: researched a self-learning Artificial Intelligence for Real-Time Strategy Games in 2013
• **Music**: passed Grade 8 ABRSM Theory and Practical