

# Kai Yi Pang

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## EDUCATION

### National University of Singapore

Aug 2020 – Jun 2024

- Bachelor of Electrical Engineering (Hons) with 2nd Major in Innovation and Design Programme (IDP)

### NUS Overseas Colleges – Silicon Valley

Jan 2023 - Dec 2023

Batch 43

- Year-long Internship/Entrepreneurship Courses in start-ups based in Silicon Valley

### College of Alice and Peter Tan (CAPT)

Aug 2020 – May 2022

University Town College Programme

- UTCP helps students develop effective communications, strong writing skills, critical thinking and intellectual breadth and rigour to tackle complex, inter-related challenges confronting the world today

## WORK EXPERIENCE

### Changi Airport Group

Jul 2024 – Current

Senior Associate

- Managing overall well-being and performance of in-house IoT sensors throughout the airport
- Onboarded new sensors and integrated them into the IoT platform using LoRaWAN technology
- Stored historical sensor data in Changi Airport Group's central database for analysis and tracking
- Undergoing training in Outsystems to display live data on custom dashboards for real-time monitoring

### Aviva Links

Jan 2023 – Dec 2023

AMS Designer

- Modelled MIPI C-PHY using Cadence Virtuoso Electronic Design Automation that involves circuit blocks of sampler, symbol decoder, Serial-In Parallel-Out, de-mapper and Clock Data Recovery using SystemVerilog and Verilog-AMS
- Converted Cadence Spectre schematics designs to Verilog-AMS to speed up overall simulations

Silicon Validation/Bringup

- Calibrated Phase Locked Loop at post silicon level using binary search algorithm and burn the settings into efuse for 100 chips to be sent to Honda and Valeo
- Created over 10 python automation testing scripts that uses oscilloscope, power supply, Thermoelectric coupling (TEC), signal generator and spectrum analyser with General Purpose Interface Bus (GPIB)

### Keysight Technologies: Automation of Black Box Testing Project

May 2022 – Jul 2022

Software R&D Engineer

- Automated workflows of In-Circuit testing for their i3070 machines
- Programmed test automation scripts based on required test plans to ensure product meets internal quality requirements
- Concurrently managed 2<sup>nd</sup> Project on 'FPGA Design and Board Test' to replace an old Integrated Circuit (IC) while ensuring specifications of the new IC is suitable using an oscilloscope

## PROJECTS

### Wave

Jan 2022 – Present

<https://wavesg.io>

CEO – Sales Lead and Product Manager

- As the CEO, co-founded a team of three individuals and expanded to include two dedicated team members to develop an Augmentative and Alternative Communication (AAC) application, with a focus on empowering the non-verbal community by providing a personalized voice
- Collaborating with Cerebral Palsy Alliance Singapore (CPAS) and Ability Now Bay Area to conduct market validation and gather product feedback from the non-verbal community, enhancing the project's impact and effectiveness.

- Leveraged product feedback to identify and integrate distinctive features into Wave's application, leading to the development of patentable product innovations and unique selling points
- Amassed a team of 6 internationally with people from Ukraine and PhD student from University of California Los Angeles

**KTH Royal Institute of Technology Pre-Incubator Program - Participant** *Mar 2023 - Present*

- Conducted market research, identified target customer segments and crafted business plan

**Wheel-Me-No-More** *Aug 2021 – Nov 2021*

*Product Designer*

- Invented and fabricated a modified 3D wheelchair to improve the safety of wheelchair users moving downslope
- Utilised the rack and pinion mechanism to shift the wheelchair's centre of gravity, reducing the likelihood of it tilting forward
- Recognised and awarded an A+ grade for this module

**Laundry Telegram Bot** *May 2021 – Jun 2021*

*Project Lead and Software Developer*

- Initiated and developed a laundry Telegram bot utilising Python programming and hosted it on Heroku Serverless Cloud
- End-to-End Development included iterations of testing to optimisation, resulting in 24/7 live updates of laundry machines
- Reduced inefficiencies for 120 residents in NUS College of Alice and Peter Tan
- Collected positive feedback from 30 residents who highlighted an average save of 3-4 times climbing stairs, equating to 1 hour spent on doing laundry weekly

**Autonomous Robot System** *Jan 2021 – May 2021*

*Electrical Circuit Designer and Programmer*

- Built a TurtleBot3, operating on ROS, that can autonomously navigate and map through a maze
- Independently identified, aimed and fired a ping pong ball projectile at a thermal target
- Designed electrical circuits and programmed coding firing mechanism on Linus OS

## CO-CURRICULAR ACTIVITIES

**Community Engagement: Guiding our Last Goodbyes (Morticians)** *Dec 2021 – Mar 2022*

*Trail Leader*

- Directed an experiential trail for a group of 25 students with The Life Celebrant to understand the journey of Morticians
- Prepared hands-on programs and activities to experience the work of morticians
- Mediated discussion questions between students and morticians on the topic of post-death

**CAPT: Arts Showcase 2022** *Aug 2022 – Feb 2022*

*Sound Director, Musician for 2 bands*

- Sound Director: Managed preparations and set up for live-streaming & in-house sound mixing
- Musician: Performed as a drummer for 2 bands

## AWARDS AND HONORS

**Wave - Samsung Solve for Tomorrow Singapore 2022** *Jun 2023*

*2<sup>nd</sup> Place Winning Team*

- Awarded \$3,000 cash prize and Samsung products valued at up to \$7,000 in recognition of exceptional depth of thinking, technical expertise, and creative abilities.

**Wave - Venture Initiation Programme @ NUS Enterprise** *Jun 2022*

*Grant Recipient*

- Awarded \$10,000 for our team to work on to determine if it can be turned into a real business

## CERTIFICATION

- Mixed Signal Simulations using Spectre AMS Designer Mar 2023
- Cadence Certified Analog & Behavioural Modelling with Verilog-AMS Feb 2023
- GICT Certified Machine Learning Specialist May 2020
- Wiley Certified Data Analyst Mar 2020