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 Candence 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 2nd 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*
2nd Place Winning Team
- Awarded $3,000 cash prize and Samsung products valued at up to $7,000 in recognition 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

CERIFICATION

- 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*