Jingchao Zeng

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About Me

Technical Skills: C/C++, MATLAB, Python, Embedded C, Tensorflow/Keras, Windows/Linux, LaTeX
Applications: Microsoft package, Trello, LT spice, EAGLE, Octave, Git, Multisim, Jupyter Notebook
Languages: Professional in English; Native in Mandarin and Cantonese
Interests: Game, Music, Poker, Gym, Football, Travel

Education

Imperial College London London, UK (2020 - 2021)

- **Master student** in MSc Applied Machine Learning **(On track of Distinction)**

University of Southampton Southampton, UK (2017 - 2020)

- **Degree:** First Class Honors in BEng, Electrical and Electronic Engineering. **GPA(UK):** 78/100
- **Final dissertation:** Price-worthy ($\geq$85) among 300 projects

Research Experience

Brain Machine Interface neural firing rate estimation (Dec.2020 - Sep.2021)

- Developed and tested a hardware-friendly firing rate algorithm in MATLAB
- Designed IP cores using a fixed-point and throughput optimisation in Xilinx FPGA for performance testing
- Implemented Bayesian decoders on multi-channel neural spikes to predict behaviour outputs (velocity etc.)

Wireless wearable IMU for fall detection (Oct.2019 - May.2020)

- Designed, fabricated and tested single-layer PCBs using EAGLE CAD
- Set up I^2C and Bluetooth Low Energy communication on Arm Cortex-M4 (Nordic nRF52832)
- Designed a GUI to test and develop a fall detection algorithm

Chair system for a daily sit-to-stand exercise (ECS Research Internship) (Summer 2019)

- Designed wireless force-sensing chair and footplate physical using Solidworks (MCU: Arduino Mega2560)
- Wrote a real-time algorithm for interactive light (laser and LEDs) and audio feedback instruction

Leadership and Teamwork Experience

Group Project: Arm Movement Guide for Rehabilitation (Leader) (Oct. 2020 - March. 2021)

- Designed a cheap and compact wearable IMU device
- Classified movement directions by implementing a linear SVM classifier in a real-time
- Designed a web GUI interface (p5.js) to wirelessly guide and provide performance analysis

Cambridge Consultant Hackathon (Awarded 2nd) (Oct. 2019)

- Worked with a group of software engineers to develop a spectral sensor network in Raspberry Pi Zero to identify the health status of plants remotely.

Group Project: Recycle Food Delivery Service in Hong Kong (Top 3) (Nov. 2019)

- Worked with 6 students to investigate and build a cost-effective business model, including the proposal of app development, marketing research and cost estimation.

Group Project: ASIC Chip Design and Verification (3rd)(Co-Leader) (Oct.2018 - May.2019)

- Designed and simulated ASIC chip on software package, and tested function of fabricated chip on MCU

Home Project: Quadcopter Drone (leader) (June. 2018 - Sept. 2018)

- Worked with two engineers to assemble, solder, calibrate, model, and test a quadcopter (Pixhawk)

Vice President of Economic Club (Oct.2014 - Sept.2016)

- Organised three local business competitions in Guangzhou for hundreds of high school students

References: Available on request