Yuxuan Gu

✉ yuxuan.gu21@imperial.ac.uk | 📱 +44 (0)7536948529
👤 https://guyuxuan9.github.io/ | 🔗 https://www.linkedin.com/in/yuxuan-gu-7208b019a/

Education

Imperial College London, UK   2021-2025
*MEng in Electrical and Information Engineering, **Dean's List, top 5% in Year 1 and 2***
Main Courses: Deep Learning, Computer Vision, Machine Learning, Control Systems, Discrete Maths
            Advanced Computer Architecture, Signals and Systems, Software Systems

Jinling High School, China   2018-2021
A LEVELS & IGCSE, 4A* in Further Maths, Maths, Physics and Chemistry
Accumulative marks **Top 1** in China –2020 Cambridge Outstanding Learner Award (Best Across Three) and gave a speech as a Student Rep in the awards ceremony.

Experience

Undergraduate Teaching Assistant (UTA), *Imperial College London*   Sept. 2023 - Present
- Mentored students in Prob. and Stats. classes and Control drone labs and provided constructive feedback.

Undergraduate Researcher (UROP), *Imperial College London*   July - Sept. 2023
- Developed a colour-tracking 4-DOF robotic arm using remote control within ROS2 framework.
- Integrated USB camera as a sensor within feedback loop.
- Utilised a Raspberry Pi for motor control via UART, implemented a remote controller and conducted stability analysis.

Software Engineer, *Evotrack*   July - Sept. 2022
- Analysed usage data of E-vehicles charging stations in Paris and ran k-means clustering to divide stations into clusters.
- Created a data acquisition routine utilizing Google Maps API for facility information.
- Achieved high predictive accuracy in station utilization by training Gradient Boosting models on historical data and considering the number of nearby facilities.

Projects

Self-balancing autonomous maze-solving rover, *Imperial College London, UK*   May-June 2023
- Designed a self-balancing rover for autonomous maze navigation, real-time mapping, and shortest path identification.

FPGA Multi-player Snake game, *Imperial College London, UK*   Feb. - March 2023
- Developed a multiplayer Snake/Slither game using FPGAs with onboard accelerometers as direction controllers.

RISC-V CPU, *Imperial College London, UK*   Dec 2022
- Utilised Verilator and System Verilog to design a single-cycle and a pipelined RISC-V CPU and implemented cache.
- Strengthened negotiation skills through collaboration with three teammates and organizing regular meetings.

Remotely controlled rover, *Imperial College London, UK*   June 2022
- Built a rover that can identify rocks emitting unusual electromagnetic and acoustic signals.

AI-based plants water shortage warning device, *Verimake, China*   July-Sept. 2021
- Trained a model to match the image of leaves with soil humidity by exploiting online resources.

Skills

Programming Languages:
    C++ | Python | System Verilog | MATLAB/Simulink | HTML | CSS | Numpy | Pandas | SciPy | Matplotlib

Technologies & Tools:
    Arduino | Raspberry Pi | Robot Operating System (ROS) | Git | Bash | Git | Linux | SQL | LaTeX

Languages:
    English (Fluent, IELTS: overall 7.5 with each band no less than 7.0), Chinese (Native) .

Extra-Curricular Activities

- Active member of Imperial Badminton Club, attending social sessions and patiently teaching beginners.
- Active member of Imperial Chamber Music Society, featuring violin solos in concerts.