George Zhang

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EDUCATION

Imperial College London London, UK Oct 2020 - June 2024
MEng - Electrical and Electronic Engineering

- **Third Year Modules**:
  Digital Signal Processing, Electrical Energy Systems, Control Engineering, Analogue Integrated Circuits and Systems, Power Electronics, Statistical Signal Processing and Inference, Digital Systems Design
- **Second Year**: Overall Grade: 78.63% **(top 5%)**, First Class, Dean's List (awarded to top 10%)
- **First Year**: Overall Grade: 83.31% **(top 5%)**, First Class, Dean's List (awarded to top 10%)

King Edward's School Birmingham, UK Sept 2013 - July 2020
Secondary School

- **International Baccalaureate (44/45 points)**: Higher Level Mathematics, Physics and Chemistry
- **GCSEs:** 11A*s including Mathematics and Physics and A^ in Further Mathematics
- **King Edward's Scholar and King Edward's Foundation Scholar**: Scholarships awarded for academic performance upon entry to sixth form and the school respectively.

EXPERIENCE

Control and Power Group - Imperial College London London, UK April 2023 - Present
Research Placement (6 Months)

- Selected as 1/3 students to receive funding to pursue a research placement within the Imperial EEE department
- **Microgrid Testbed**: Working to establish a cyber-physical testbed to emulate the control and communication structure of a microgrid under the supervision of Dr Fei Teng

Academic Year Representative London, UK Nov 2022 - Present

- Nominated as Academic Year Representative for the 3rd year EEE course at Imperial
- Working closely with department to implement student feedback and improve student experience

Undergraduate Tutor: Mathematics London, UK Oct 2022 - Present

- Tutoring second year students in Mathematics covering Linear Algebra, Complex Analysis and Probability and Statistics

Digital and Electrical Power Systems Group Ithaca, NY, US July 2022 - Aug 2022
Cornell University
Research Intern (8 Weeks)

- 1/1 student selected by Imperial EEE Department for a Cornell-Imperial International Research Opportunity (IROP)
- **Data Compression**: Simulated a novel compression scheme, 'Adaptive Subband Compression', in MATLAB for Point-On-Wave and PMU Data, under the supervision of Professor Lang Tong

IET Power Academy Scholar - Western Power Distribution July 2021 - Aug 2021
Work Placement (9 Weeks)

- **Power System Restoration**: Worked in a team of four to produce a business report on Power System Restoration strategy
- Focused on researching LFDD and synthetic inertia
  - **Low Frequency Demand Disconnection (LFDD)**: Analysed potential improvements to the LFDD system to ensure sufficient demand reduction during extreme events whilst considering increased distributed generation and reduced system inertia
  - **Synthetic Inertia**: Researched possibilities of integrating sources of inertia such as inertial response from wind turbine generators

PROJECTS

Imperial Formula Student Oct 2022 - Present

Electronics Team

- Focusing on designing, developing and testing electronics circuits as part of the Imperial Formula Student team
- Diagnosing and debugging issues with electronic protection circuits including the IMD/BMS Shutdown and BPSD circuits
- Redesigned and developed circuits on Autodesk EAGLE to rectify errors and improve existing circuitry

Autonomous Mars Rover May 2022 - June 2022

Top Second Year Group Project

- Focused on developing the Drive and Energy Subsystems for a rover which autonomously navigates an arena to map aliens and avoid obstacles
- Simulated and designed a power electronic interface to charge rover batteries from PV panels
- Programmed a control system for precision rover movement and tracking

Analogue Music Synthesiser May 2021 - June 2021

Top First Year Analogue Synthesiser Group Project

- Designed and simulated an 88-key analogue music synthesizer in LTSpice
- Evaluated product design specifications, component costs, power consumption and audio quality

VEX Robotics Team (VRC) Dec 2016 - April 2019

- Founded and led a robotics team participating in VRC competition
- Designed, built, tested and programmed robots under tight schedules over three years
- **Top 50 at 2019 World Championships; 2019 UK National Champion; 2018 UK National Finalist**

HONORS AND AWARDS

IET Future Talent: Boost Scholarship: Awarded on the basis of my academic achievements Dec 2022

Dean's List for Academic Excellence: Awarded to the top 10% of students in each year 2021,2022

Head of Department's Second Year Top Group Project: Autonomous Mars Rover June 2022

Head of Department's First Year Top Analogue Music Synthesiser Group Project June 2021

IET Power Academy Scholar with a work placement with Western Power Distribution Feb 2021

UK VRC National Robotics Champion and **Build Award** March 2019

King Edward's Scholar: Scholarship awarded based on top academic performance Sept 2018

UK VRC National Robotics Finalist March 2018

King Edward's Foundation Scholar: Awarded the highest academic scholarship achievable Sept 2013

VOLUNTEER EXPERIENCE

Head of STEM Club Birmingham, UK Sept 2017 - July 2020

- Organised weekly activities involving rocketry, robotics and astronomy to encourage younger students at my school to take an interest in STEM

Alumni Liaison - Assisted Places Campaign Birmingham, UK July 2020

- Communicated with former pupils of King Edward's School to raise money for Assisted Places, which provides financial support to allow students of all backgrounds to attend the school

SKILLS SUMMARY

- **Languages**: English (Native Speaker), Spanish (Intermediate Level), Chinese (Intermediate Level)
- **Programming**: C++, MATLAB, Python
- **Software**: LTSpice, Quartus, LaTeX, Altium, EAGLE