

Cassandra Choi

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Final Year MEng Integrated Design Engineering student at the University of Bath with hands-on experience in human-centred medical device development and multidisciplinary collaboration. Demonstrated success in technical and creative skillset across **CAD, rapid prototyping, and design communication**. Driven to contribute to innovative solutions that blend functionality with insight into user needs.

Education

University of Bath: MEng Integrated Design Engineering 2021 – 2025

Current Overall Average: 69.5%

Modules: Medical Engineering, Mechatronics Design, Reverse Engineering, Design Materials and Manufacturing, Materials Selection in Engineering Design, Design Optimisation

Advanced Design Offsite Student 2024

Industrial Design Program: Sketching, Design Discourse, Methods, Digital Tools (Autodesk Fusion 360)

South Hampstead High School, London 2014 – 2021

Academic Award for Computer Science | A Levels: Physics (A*) Mathematics (A*) Computer Science (A*) Further Mathematics (A)

Engineering Experience and Projects

Major Individual Design Project (Final Year Project) 2025

Designed a device to improve the ergonomics of laparoscopic surgery to reduce work-related musculoskeletal disorders. Medical device design through an iterative process, receiving and implementing feedback from primary user throughout. Developed organisational skills, simultaneously balancing the design and manufacturing of the device and its test rig.

University Design Engineering Projects: 2023 – 2025

Group business and design project (Team Bath Heart)

Third year group project designing a total artificial heart and creating commercialisation plans. Successfully interfaced between electrical and mechanical team through the design of electronic encapsulation and ensuring its fit with the mechanical design. Experience with leading ideation sessions in a large multi-disciplinary engineering team, to find solutions meeting target specification. Designed to ISO 13485 and management through ISO 14971.

Human centred design:

Created a manoeuvrability aid for disabled cyclists using a recumbent bike with All Cycle Bath and West to increase independency of users. Worked within a team following a few rounds with the design sprint methodology to ideate and create rapid prototypes. My role within the team focused on design communication through sketching, ensuring that user requirements were translated clearly and reflected in our final product.

Mechatronics design:

Took lead on the electronic sub-system with a stripboard circuit to process sensor signals for Arduino input as well as motor driver PCBs. Developed my technical integration skills, with clear communication between mechanical hardware and software code to ensure smooth system operation.

Internship experience at Kinneir Dufort 2024

Developed a wireless wearable enclosure for myoware muscle sensors for injury rehabilitation.

Additional Skills and Roles of Responsibilities

Computing Skills

Microsoft office	Competency with Word, Excel, and PowerPoint as I used these programs to produce presentations for stakeholder communication during Design projects and lab reports with data analysis during university courses.
Matlab, Python	Matlab to process data and produce graphs for projects, modelling ODEs and interfacing with Arduino projects. Proficiency with NumPy, Matplotlib, Pandas
HTML/CSS, Bootstrap	I created a personal website applying my understanding of these languages.
Photoshop, Illustrator, InDesign	I used these programs to complete projects for a Computer Graphics course at Yonsei University and design media for university project displays and social media marketing.

Department of Mechanical Engineering – Student Ambassador

2023-2025

Represented the department at open days through information fairs and conducting lab tours, developing public speaking and time management skills.

Team Bath Heart – Commercial Design and Brand Manager

2023-2025

Designing the university artificial heart team brand kit and promotional material has developed my eye for detail and communication skills through creative elements, as well as increasing my competency in the core Adobe graphic packages.

University Mahjong Society Chair

2023-2024

As chair of a newly affiliated society at the University, I've helped pioneer a community allowing individuals to learn, play and form meaningful experiences. Liaising with the university and connecting with other students has developed my collaborative skills and ability to respond to feedback, to ensure an enjoyable experience for all. Completed the SU Bath Student Leaders Group Chair, Health & Safety and Finance training modules.

Fluency in English, Mandarin, and Cantonese

Hobbies and Interests

Sports

I train and compete in Olympic Weightlifting at a national level, a passion I developed at university. This has made me more persistent through pushing myself beyond my comfort point, both physically and mentally.

Language learning

I have been self-studying Korean intermittently for the last 4 years with a greater focus in the last year, undertaking an exchange program at Yonsei university.