Joshua Brown

Address: 26 Summerhill Close,
Orpington,
Kent
BR6 9PX

Telephone: 07712291964
E-mail: joshua.brown214@imperial.ac.uk
Website: www.jbengineering.uk

Education

Queen Mary University of London

PhD Robotics *2018 – present*

- Investigating haptic representations of motion for telepresence robots and virtual reality
- Supervised by Dr. Ildar Farkhatdinov and funded by the Engineering and Physical Sciences Research Council

Imperial College London

MEng Electronic and Information Engineering, Upper Second-Class Honors *Conferred August 2018*

Master's Project

- Constructed a fingertip tactile display to impart a tactile representation of text, shape and colour
- Awarded 85% mark and the Eric Laithwaite prize for outstanding innovation in an individual project
- Supervised by Emeritus Professor Robert Spence and Dr. Mark Witkowski

Specialisms and Module Highlights

- Human-Centered Robotics (79%), Mobile Healthcare and Machine Learning (72%), User-Centered Information Systems (82%), Artificial Intelligence and Embedded Systems Project (73%), Digital Image Processing Project (70%), Computer Architecture (70%)

Projects

- Built a smart walking aid featuring obstacle avoidance detection of falls and clinical gait disorders
- Built a voice controlled, smart exoskeleton for a coffee machine (*sponsored by IBM*)
- Developed my own own single camera 2D-3D image conversion algorithm, and implemented this on an FPGA
- Designed an automated river monitoring system for the Nepal Water for Health Challenge

Publications/Presentations

J. Brown, M. Witkowski, J. Mardell, K. Wittenburg and R. Spence, "The Role of Perspective Cues in RSVP," 2017 21st International Conference Information Visualisation (IV), London, 2017, pp. 29-34.

- Responsible for implementing experimental interfaces, designing a rigorous experiment, performing that experiment on volunteer subjects and communicating results to other members of my team
- Presented my research to members of the public at the Imperial Festival, attended by over 16,000 visitors
- Collaborated with an international research team
- Applied for and won the EPSRC vacation bursary to fund my project

Relevant Skills

- Sound knowledge of programming in C/C++, Python, SQL and several RISC assembly languages
- Extensive experience working with the ARM mbed, Arduino, Raspberry Pi and FPGA platforms
- Experience in small form-factor PCB design, manufacture and assembly
- Keen design skills, with experience in product and human-computer interface design
- Excellent CAD skills including Solidworks, Autodesk Inventor and Adobe Creative Suite
- Wide experience of manual and CNC manufacturing, including laser cutting, 3D printing, milling and turning

Other education

Wilmington Grammar School for Boys, 2007 - 2014

Qualifications

- A-Levels in Systems and Control (A*), Mathematics (A) and Physics (A) 2014
- AS-Level in Chemistry (A) 2013
- 9 GCSEs at A or A* (A* in English Language, Mathematics and German) 2012
- A* in the Level 2 Diploma in Engineering (full marks in 3 out of 8 units) 2012
- Distinction in the OCR First Certificate in ICT and full marks in the Higher Project Qualification 2012

Projects, 2009-2014

- Built a 3D printer for the school's Design Technology department and trained staff and students to use and maintain it
- Founded and led the school's steam car club
- Helped run the school's engineering display at the Dartford Industrial Heritage day
- Part of a group of students building a Caterham 7 Kit car in the Caterham '7s for schools' project
- Led a team in the Mission Virgin Galactic Competition winning the South East regional finals
- Designed and launched a website to showcase the work of my school's Engineering Department
- Designed a metro map style visualization of the School's 20 bus routes

Work Experience

Work Shadowing - Rolls-Royce, Derby (2013)

- Witnessed and engaged with the work of a world class engineering company in design, stress analysis, project planning, manufacturing engineering, control systems and maintenance

Work experience – Specac, Orpington and UBC/Interbulk (2011)

- Gained practical skills in 2D and 3D design and manual manufacturing
- Learned to program in Delphi, implementing a database and GUI for a small contacts organizer
- Learned about the roles of engineers and developers in a business with a non-technical focus

Awards

- Eric Laithwaite Prize 2018
- Imperial College President's Scholarship 2014
- Bloodhound SSC Award for Excellence in Engineering 2013
- Advanced STEM Leaders Award 2013
- Rolls-Royce Arkwright Engineering Scholarship 2012

Other interests and activities

- Worked as a guide, giving department and campus tours on open days and interview afternoons
- Captain of the Imperial College Gallery Rifle and Clay Pigeon (mixed) teams. I also coach new members, run trips, organize matches against other clubs and conduct the club's indoor range.
- Compete individually in Gallery Rifle, with various class wins across six national and international tournaments
- Helped run and organize STEM outreach activities in local primary schools, eventually helping to train other students to continue this work
- Member of the Imperial College Robotics Society
- Part of a team representing Bromley Borough in archery at the London Youth Games for seven years