# David Hardman, PhD

https://www.dshardman.co.uk
https://www.linkedin.com/in/davidshardman

I'm a Henslow Research Fellow in robotics at Fitzwilliam College, Cambridge. I also hold an EPSRC Doctoral Prize Fellowship, working in Cambridge's Bio-Inspired Robotics Lab. I have a significant background bringing complex mechatronics projects to reality; in addition to my hands-on research building tactile skins for soft robots, I've previously developed and fabricated numerous physical prototypes for commercial, startup, academic, stage, and personal projects.

## FELLOWSHIPS, AWARDS & PRIZES

| | |
|---|---|
| **Junior Research Fellowship** (Fitzwilliam College, University of Cambridge, **current**) | **2024 – 2027** |
| **EPSRC Doctoral Prize Fellowship** (Department of Engineering, Cambridge, **current**) | **2024 – 2025** |
| Georges Giralt Award for best European PhD in Robotics: Finalist | 2025 |
| Soft Robotics TC Excellence Award | 2024 |
| CSAR Award for "*outstanding research with real world application.*" | 2023 |
| IET Diamond Jubilee Scholarship | 2016 – 2020 |
| David Maull Prize for engineering | 2019 |
| Dewhurst Award for academic achievement | 2019 |
| Langdon Dowsett Scholarship | 2019 |
| Dewhurst Award for academic achievement | 2018 |
| Craythorne Scholarship | 2017 – 2018 |
| Latymer Award for academic achievement | 2017 |
| Arkwright Scholarship for "*outstanding potential as a future leader in engineering.*" | 2014 – 2016 |

## KEY PREVIOUS POSITIONS

**Visiting Researcher, CREATE Lab, EPFL Lausanne** June 2024 – September 2024

- Conceptualised & led a project on automated tool-change mechanisms for soft sensors (in preparation), while also bringing technical expertise & fabrication experience into ongoing tactile sensing international collaborations.
- Acted as an external examiner for EPFL's Masters theses in robotics.

**Engineering PhD, Bio-Inspired Robotics Laboratory, University of Cambridge** October 2020 – June 2024

- My thesis on soft robotic skins was based upon 17 peer-reviewed publications, which are listed here. Many gained significant attention in the press, including first author works (link) & talented students who I directly supervised (link).
- Over 300 hours of undergraduate teaching during PhD, including mechanical engineering, structural mechanics, 3D printing, machine tools, and Python.

**Consultant (Health Tech), The Technology Partnership** March 2023 – June 2023

- Added value to multidisciplinary engineering teams bringing skills in prototyping, data generation & analysis, product development, and laboratory work.
- Developed solutions to highly technical surgical and medical imaging issues faced by clients.

**Undergraduate Researcher, Bio-Inspired Robotics Laboratory** July 2019 – September 2019

- Developed an open-source MATLAB simulator to be used in the teaching of robotics, including demonstrations of key concepts such as inverse kinematics and Kalman filtering.
- Wrote a first author conference paper from scratch within the 10 week placement: using motion capture to optimise robotic gaits.

**Engineering Intern, Densitron Technologies Ltd** July 2017 – September 2017, December 2017

- Created and tested graphical interfaces using Qt software, C++ haptic code, and single-board computers running Linux.
- Personally developed an interactive automated platform to be showcased at the 2017 International Broadcasting Convention.

## EDUCATION

**Engineering M.Eng.,** Corpus Christi College, University of Cambridge 2019 – 2020
**First Class**, with Master's thesis exploring applications of high-resolution 3D printing.
Specialisation in mechanics, materials and design.

**Engineering B.A.(Hons)**, Corpus Christi College, University of Cambridge 2016 – 2019
**First Class**, specialisation in mechanics, materials and design.
Logistics Officer for 'Corpus May Ball': a 1000-guest overnight event.

**The Judd School, Tonbridge** 2009 – 2016
**5 A Level A***s in Mathematics, Further Mathematics, Physics, Chemistry, Product Design.
**11 GCSE A***s including Mathematics, Further Mathematics, English.

## TALKS & PRESENTATIONS

**Presentation at UK Parliament** as part of annual STEM for Britain event, March 2024.
**East of England Runner-Up** in FameLab Science Communication Competition 2025.
**Invited lecture,** UCL Department of Computer Science, February 2025.
**Invited talk** at Cambridge Society for the Application of Research, June 2024: "Sensorised Skins for Soft Robots".
**Conference presentations/demonstrations** at TAROS 2020 & 2023 Embodied Intelligence 2021, 2022, 2024 & 2025, RoboSoft 2021, 2022, 2023, 2024 & 2025 (Best poster award in functional materials), OHMC workshop 2022, Soft Robotics for Mixed Reality 2022, Soft Robotics for Food and Home Applications 2023, Embodied Artificial Intelligence and Evolutionary Soft Robotics 2024, UK Manipulation Workshop 2025.
**Invited talks** at St Catharine's John Ray Society, March 2023 & Fitzwilliam College, November 2024.
**Invited talk** at Soft Robotics workshop: "Learning-based Sensing for Soft Applications," April 2023.
**Invited talk** at MathWorks Cambridge: "Towards Growing Robots," November 2019.
**Led & hosted research public livestreams:** UK-RAS Robot Lab Live, 2021, 2022.
**Podcast interview: "**Bioinspired Robots: learning from nature," UK-RAS Robot Talk Episode 17, 2022.
**Outreach panel member** at EI Workshop, April 2021 & Fitz+, November 2024, February 2025.
**Subject masterclasses for prospective students:** at Corpus Christi College (x4), Christ's College (x1), Fitzwilliam College (x1), AIOS Cambridge Winter School (x2), March 2022 - January 2024.

## INTERESTS & SKILLS

Outside of engineering, my motivated personality shines through: I'm a member of the world-famous Magic Circle, where I have won multiple awards for stage magic performances, and I hold a British Record in long course finswimming. I'm also a keen badminton & tennis player, and regularly play in local leagues as part of my club's team.

**References are available upon request.**