

HELEN JACKSON, M.A. (Hons) PH.D MBBS (Hons)

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PERSONAL STATEMENT

I have worked as a Senior Technology Consultant at Softwire since June 2019. I undertake client work in various roles, most commonly delivery lead, but also as a researcher, business analyst, service designer, user researcher and software developer.

I combine a broad technical background with a keen interest in people, having studied, worked and volunteered in the healthcare technology sector for over a decade. par

EDUCATION

MBBS (HONS), GRADUATE-ENTRY MEDICINE, KING'S COLLEGE LONDON

2017

Classification: 88th centile

Distinction for both dissertations

Authored or co-authored two published peer-reviewed original research articles, two published peer-reviewed conference abstracts, six conference research posters and eight conference oral presentations

PH.D, UNIVERSITY OF CAMBRIDGE

2011

"The role of temporal information in the perception of complex signals", Prof. Brian C. J. Moore
<https://github.com/DeckOfPandas/phd>

First author of three published peer-reviewed original research articles

Co-authored two published peer-reviewed conference abstracts and two conference research posters

M.A. (HONS), NATURAL SCIENCES, UNIVERSITY OF CAMBRIDGE

2007

Classification: II(i)

Part II course: Experimental Psychology

Part I courses: Anatomy, Biochemistry, Medical Sociology and Statistics, Neurobiology, Pathology, Pharmacology, Physiology, Reproductive Biology

EXPERIENCE

SENIOR TECHNOLOGY CONSULTANT, SOFTWARE

JUNE 2019–PRESENT

National Physical Laboratory, Python developer

November 2020 to January 2021

- Joined a technical lead to build a comprehensive analysis suite using Python, numerical, scientific and plotting Python packages, SQLite and SQLAlchemy, for Lidar measurements of atmospheric pollutants
- Translated complicated business requirements and MATLAB scripts into a fully featured, extensible and maintainable Python application, with automated testing and building via a Continuous Integration pipeline
- Manipulated data, implemented complex mathematical calculations, and built a GUI

Cabinet Office, Delivery Lead / Service Designer

May to November 2020

- Led Discovery and Alpha phases of research into absent voting processes, involving quantitative and qualitative research, interviewing electoral administrators and designing potential technical service options

- Acted as the primary client contact point, co-ordinating all stakeholders across central and local government
- Led a cross-organisational team through a GDS Assessment of the proposed new service, passing at the first attempt

Public Health England, Business Analyst

March to April 2020

- Co-led a small team in a Discovery into data collection, visualation and governance activities carried out by different departments, to inform the future design of a consolidated and modernised health intelligence system
- Designed and conducted detailed interviews to establish the technical landscape for potential improvements
- Produced a detailed structured document describing key data-related activities to inform future prototyping

Public Health England, Delivery Lead

November 2019 to February 2020

- Led a team in a technical Discovery investigating options for upgrading PHE's Cancer Analysis System, a complicated set of databases containing disparate datasets used by analysts to produce cancer epidemiology metrics and guide research
- Acted as the primary client contact point, co-ordinating all project stakeholders and activities
- Carried out technical and user research
- Produced a detailed written report into upgrade options, including migration plans, indicative cost estimates, and a roadmap for the Alpha phase of the research

Tate Britain, Business Analyst / User Researcher

September to October 2019

- Interviewed a wide cross-section of Tate staff, identifying and analysing all relevant workflows
- Produced an architectural plan and indicative time and cost estimates for the replacement of the Tate website's Content Management System, including integrations with the wider Tate IT estate
- Shortlisted potential replacement approaches, outlining both the technical and user-facing benefits of each option
- Advised on the simplification of business processes, and opportunities for legacy system replacement or consolidation.

FREELANCE HEALTH, RESEARCH AND TECHNOLOGY CONSULTANT

2014–2019

- Researched and prototyped Open Spirometer, an Android app for Open Health Care UK, to measure lung function using just a device's microphone
<http://openspirometer.org>
- Co-ordinated a team of doctors and developers to build Take Your Meds, a prizewinning telephone-based medication reminder system using Python and Django and the Twilio service
<http://helenjackson.co.uk/take-your-meds> (temporary demonstration site)
- Co-ordinated a team of doctors and developers to install and maintain a fully featured online research data collection platform on AWS for the Welsh Digital Data Collection Platform, used for clinical studies across Wales
<http://wddcp.ac.uk>

- Designed and built a static website using Jekyll for Too Much of a Person, a community movement and exhibition; set up continuous integration with testing and deployment in a way that allowed non-technical people to update content and add media to a portfolio without further technical input
<http://toomuchofaperson.com>
- Researched and wrote up the health economics business case for a technology hardware startup
- Took principal role to scope, design, brand and deliver a corporate-level hackathon-as-a-service for the community development arm of a big pharma company
<http://nhsideaslab.com>

CO-FOUNDER & TECHNOLOGY LEAD, JSAMR (VOLUNTEER)

2016–PRESENT

- Founded JSAMR, the Journal of the Student Association for Medical Research, an online open access and open source academic journal for medical student research from scratch
<http://nsamr.ac.uk/journal>
- Installed and customised Open Journal Systems (OJS) software, written in PHP on top of a PostgreSQL database, to build a fully featured online submission, review and publication system
- Completely redesigned public OJS frontend to allow modern, usable design, using HTML, CSS and preprocessors, and JavaScript

TECHNOLOGY LEAD & TRUSTEE, NSAMR (VOLUNTEER)

2016–2018

- Supported all technological aspects of the research charity NSAMR, National Student Association for Medical Research, including setting up version control, monitoring and recovery systems for the main website and sub-team activities
<http://nsamr.ac.uk/>

NHS HACK DAY CORE TEAM MEMBER (VOLUNTEER)

2014–2018

- Contributed to the organisation of sixteen health and care technology hackathons with the tagline "Making NHS IT Less Bad", four as lead or sole organiser
<http://nhshackday.com/>

RESEARCH CONSULTANT, MERIDIAN AUDIO LTD THEN MQA LTD

2014–2016

- Led the planning, delivery, analysis and writeups of psychoacoustic experiments investigating high-resolution audio
- Designed and investigated digital filters using MATLAB, processing signals and building a frontend application to run the behavioural testing paradigms
- First author of publication winning "best peer-reviewed paper" at the Audio Engineering Society 137th Annual Conference

RESEARCH CONSULTANT, ERIKSHOLM RESEARCH CENTRE, OTICON, DENMARK

2011–2012

- Built a web application using Flash and AS3 to deliver an online battery of hearing tests for measuring sensitivity to temporal fine structure, used as part of the FAS-IT study which was undertaken by >1500 participants

SUPERVISOR OF UNDERGRADUATE STUDENTS, UNIVERSITY OF CAMBRIDGE

2007–2012

- Planned and delivered tutorials to small groups of undergraduate students covering Part II and Part IB courses in hearing, neurobiology and statistics
- Queens' College graduate Teaching Fellow for Part IB Experimental Psychology course, 2009–2010

APPENDIX

PEER-REVIEWED ORIGINAL RESEARCH

Byrne M, Stainer B, Symington M, Leighton J, **Jackson HM**, Singhal N, Shiel-Rankin S, Mayes J, Mogg J, Bonham T, Smit A, Deutsch E, Thompson E, Wilson C. School level education to increase organ donation and awareness of issues in transplantation in the UK. *Transplant International*. (in press).

Byrne M, Symington M, Stainer B, Leighton J, **Jackson HM**, Singhal N, Shiel-Rankin S, Mayes J, Mogg J, Bonham T, Smit A, Deutsch B, Wilson C. School level education to increase organ donation and the effect of deprivation. *International Journal of Surgery*. 2018; 55:s5. <https://doi.org/10.1016/j.ijssu.2018.05.695>. **Winner of ASGBI/ASiT Short Paper Prize**. [published conference abstract].

Byrne M, **Jackson HM**, Sinha A, Tong A, Grafton-Clarke C, Rees S, Mathur A, Cross B, Christopher E, Isaacs L, Banh S, Sheng Z, Lundin R. The National Student Association of Medical Research (NSAMR) Publication Pathway. *International Journal of Surgery*. 2017; 47:s55. <https://doi.org/10.1016/j.ijssu.2017.08.287>. [published conference abstract].

Jackson HM, Capp MD, Stuart JR. The audibility of typical digital audio filters in a high-fidelity playback system. *Audio Engineering Society 137th International Conference*. 2014; 1-12. <http://www.aes.org/e-lib/browse.cfm?elib=17497>. Accessed October 9, 2014. **Prize for best peer-reviewed paper**.

Jackson HM, Moore BCJ. The role of excitation-pattern, temporal-fine-structure and envelope cues in the discrimination of complex tones. *Journal of the Acoustical Society of America*. 2014; 135:1356-1370. <https://doi.org/10.1121/1.4864306>.

Jackson HM, Moore BCJ. The dominant region for the pitch of complex tones with low fundamental frequencies. *Journal of the Acoustical Society of America*. 2013; 134:1193-1204. <https://doi.org/10.1121/1.4812754>.

Jackson HM, Moore BCJ. Contribution of temporal fine structure information and fundamental frequency separation to intelligibility in a competing-speaker paradigm. *Journal of the Acoustical Society of America*. 2013; 133:2421-2430. <https://doi.org/10.1121/1.4792153>.

Jackson HM, Moore BCJ. Evaluation of the relative importance of temporal-fine-structure and excitation-pattern cues in the discrimination of complex tones with high harmonics. *International Journal of Audiology*. 2011; 50(10):717-780. <https://doi.org/10.3109/14992027.2011.588967>. [published conference abstract].

Jackson HM, Moore BCJ. Factors influencing sensitivity to temporal fine structure in normal-hearing listeners. *International Journal of Audiology*. 2010; 49(9):672-722. <https://doi.org/10.3109/14992027.2010.490242>. [published conference abstract].

POSTER PRESENTATIONS, ABSTRACTS, ORAL PRESENTATIONS AND CONFERENCE LECTURES

Rapid-fire oral and poster presentation: Byrne M, Rees S, **Jackson HM**, Harvey A, Tong G, Brezovjakova H. Journey of a Journal: the use of a student-run peer reviewed journal as a learning tool. *UK Clinical Teaching Fellows Forum and Academy of Medical Educators, Frimley Park Hospital, UK*. 2019.

Rapid-fire oral poster presentation: Dalton T, **Jackson HM**. Making Sense of Psychopathology: The importance of undergraduate teaching on the function and phenomenology of symptoms. *Royal College of Psychiatrists International Congress, Birmingham, UK*. 2018.

Oral presentation and poster: Dalton T, **Jackson HM**. Making Sense of Psychopathology: The importance of undergraduate teaching on the function and phenomenology of behavioural symptoms. *National*

Foundation Doctors Research Presentation Day, Bristol, UK. 2018. **Highly commended (Education category).**

Oral presentation and poster: Byrne M, Symington M, Stainer B, Leighton J, **Jackson HM**, Singhal N, Shiel-Rankin S, Mayes J, Mogg J, Bonham T, Smit A, Deutsch B, Wilson C. School level education to increase organ donation and the effect of deprivation. *National Foundation Doctors Research Presentation Day, Bristol, UK.* 2018.

Oral presentation and conference short paper: Byrne M, Symington M, Stainer B, Leighton J, **Jackson HM**, Singhal N, Shiel-Rankin S, Mayes J, Mogg J, Bonham T, Smit A, Deutsch B, Wilson C. School level education to increase organ donation and the effect of deprivation. *Association of Surgeons in Training 2018, Edinburgh, UK.* 2018. **Winner of ASGBI/ASiT Short Paper Prize.** Published: *International Journal of Surgery.* 2018; 55:s5. <https://doi.org/10.1016/j.ijssu.2018.05.695>.

Poster: Dalton T and **Jackson HM**. Medical students and phenomenology: presenting simple, coherent schemas of psychopathological processes. *Annual RCPsych Medical Education Conference, Belfast, UK.* 2017.

Oral presentation: **Jackson HM**. Sense of presence experiences and the neuropsychiatry of Parkinson's disease. *Royal College of Psychiatrists International Congress, Edinburgh, UK.* 2017.

Poster and published abstract: Byrne M, **Jackson HM**, Sinha A, Tong A, Grafton-Clarke C, Rees S, Mathur A, Cross B, Christopher E, Isaacs L, Banh S, Sheng Z, Lundin R. The National Student Association of Medical Research (NSAMR) Publication Pathway. *Association of Surgeons in Training 2017, Bournemouth, UK.* 2017. Published: *International Journal of Surgery.* 2017; 47:s55. <https://doi.org/10.1016/j.ijssu.2017.08.287>.

Poster: **Jackson HM**. Sense of presence experiences in Parkinson's disease. *Royal College of Psychiatrists International Congress, London, UK.* 2016.

Conference lecture and paper: **Jackson HM**, Capp MD, Stuart JR. The audibility of typical digital audio filters in a high-fidelity playback system. *Audio Engineering Society 137th International Conference, San Francisco, United States.* 2014. **Winner of prize for best peer-reviewed paper.**

Conference lecture: **Jackson HM**. Psychoacoustics over the internet: temporal fine structure as a screening tool? *International Meeting on Internet & Audiology, Linköping, Sweden.* 2014.

Conference workshop: **Jackson HM**. How to run a Hack Day. *SpotOn: Science Policy, Outreach and Tools Online*, London, UK. 2013.

Conference lecture: **Jackson HM**, Wong WK. NHS Hack Day and Innovation within the NHS. *Health Services Research Network Symposium*, Manchester, UK. 2013.

Poster and published abstract: **Waller HM**, Moore BCJ. Evaluation of the relative importance of temporal-fine-structure and excitation-pattern cues in the discrimination of complex tones with high harmonics. *British Society of Audiology Annual Conference, Manchester, UK.* 2010. Published: Abstracts of the British Society of Audiology Annual Conference September 8–10, 2010, School of Psychological Sciences, University of Manchester, UK. *International Journal of Audiology.* 2011; 50(10):717-780. <https://doi.org/10.3109/14992027.2011.588967>.

Poster and published abstract: **Waller HM**, Moore BCJ. Factors influencing sensitivity to temporal fine structure in normal-hearing listeners. *British Society of Audiology Short Papers meeting, Southampton, UK.* 2009. Published: Abstracts of the British Society of Audiology Short Papers Meeting on Experimental Studies of Hearing and Deafness, September 17–18, 2009, Institute of Sound and Vibration Research, University of Southampton, UK. *International Journal of Audiology.* 2010; 49(9):672-722. <https://doi.org/10.3109/14992027.2010.490242>.