BENJAMIN GORMAN, B.Sc., Ph.D.   gorman.benjamin@googlemail.com
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SKILL SUMMARY

- Over six years of teaching experience in prototyping, interaction design, and programming
- Proven experience in developing and delivering modules both in-person and remotely:
  - Modules Developed (3), Modules Taught (10), Class sizes ranged from 20-150 students
- Taught programming languages and frameworks:
  - Java, Python, JavaScript, C#, C
  - HTML/CSS, SQL, React, React-Native, Android, Arduino, Processing
- Experience in supervising student dissertation projects (Undergraduate – 16, Masters - 1
- Proven track-record at publishing at top HCI venues (ASSETS 2014, CHI 2017, CHI 2018, CHI 2020)
- Growing expertise and reputation in the field of HCI and Accessibility:
  - CHI Technical Papers Associate Chair 2020 & 2021, ASSETS Program Committee Member 2020
  - Organiser of workshops at top HCI venues (CHI 2019, CSCW 2019)
- Proven ability to produce and deliver impactful presentations, research posters, and visuals
- Extensive experience with qualitative research and analysis methods
  - 1:1 interviews, observations, questionnaires, thematic analysis, and affinity diagramming
- Proficient at running quantitative research experiments, and recruiting specialised participants

EDUCATION

Ph.D., Computer Science (HCI)
University of Dundee   January 2014 – December 2017 (Defended)
Supervised by Dr. David Flatla
Thesis title: *A Framework for Speechreading Acquisition Tools*
My thesis research was focused on developing tools to enhance the acquisition of speechreading (lipreading) for people with hearing loss. To do this, I established a network of Scottish speechreading tutors and students, and conducted one-to-one interviews and questionnaires with these stakeholders.

- I used the findings to synthesise a design framework that can be used to develop Speechreading Acquisition Tools (SATs) – a new type of technology to improve speechreading acquisition.
- To demonstrate the framework's effectiveness, I developed and evaluated two new SATs for both acquiring and enhancing day-to-day speechreading:
  1) *PhonemeViz*: visualisation that displays a subset of a speaker's spoken phonemes to a speechreader to reduce viseme confusion that can occur at the start of words. The design was inspired by the 'fingerspelling' technique described by speechreading tutors during interviews.
  2) *MirrorMirror*: brain-training inspired Android application that allows speechreaders to record videos of their own and other's lip shapes to help them practice speechreading. The design was inspired by the 'mirror practice' technique described by speechreading tutors during interviews.

B.Sc., Applied Computing (Honours)
University of Dundee   September 2008 – March 2012
First Class Degree
Project title: *Adaptive Advertising*
Supervised by Jonathan Black (NCR) and Professor Vicki Hanson (University of Dundee, RIT)

- Developed a system that served relevant adverts by detecting individuals viewing a digital signage display. By using 3rd party anonymous video analytics from Intel, real-time viewer details were compared against weighting factors set for each advert, with the most relevant adverts displayed.
- Project composed of a desktop app written in C#/WPF, and a web app written in Ruby on Rails.

EDUCATION AWARDS

Postgraduate
- Gold Medal for ASSETS 2014 Graduate Student Research Competition   October 2014
- Alex Carmichael Research Prize for top Ph.D. Research in Computing   May 2014, May 2017

Undergraduate
- NCR Award for Top Level 4 Applied Computing Student   June 2012
- NCR Award for Top Level 2 Applied Computing Student   June 2010
- NCR Award for Top Level 1 Applied Computing Student   June 2009

TEACHING EXPERIENCE & EMPLOYMENT

Lecturer in Computer Science
Bournemouth University, Bournemouth, Dorset, U.K. *November* 2018 – Present
During my time at Bournemouth, I have developed and solely delivered two new undergraduate units (*User Centred Web Development* and *Ubiquitous and Mobile Computing*) and a new postgraduate unit (*Accessibility & Assistive Technologies*). I also supervised 16 undergraduate final year honours projects. Responsible for planning the departmental admissions program - by organising applicant open days.

Unit Leader (Undergraduate)
- *User Centred Web Development* (React, Javascript) – *Second Year* 2020
- *Ubiquitous and Mobile Computing* (Arduino, Python) – *Honours Level* 2019

Unit Leader (Postgraduate)
- *Accessibility & Assistive Technologies* – *M.Sc Level* 2020

Seminar Tutor (Undergraduate)
- *Applications of Programming Principles* (Python, Flask) – First Year 2019

Internal Service
- Undergraduate Admissions Coordinator 2018 – Present

Sessional Lecturer / Associate Lecturer / Tutor
University of Dundee, Dundee, Scotland, U.K. 2015 – 2018
Delivered lectures to first year undergraduate Applied Computing and Computer Science students and second year Product Design, Interaction Design and Interior and Environmental Design students. Creating and assessing student assignments from programming to practical work, and presentations. Teaching and supervising in a lab-based setup with demos of programming, soldering, and circuit design.

Sessional Lecturer
- AC22006 – *Physical Computing* (Arduino & Java) 2018
- AC11003 – *Java Online* (Distance Learning Course) Summer 2017, Summer 2018
- SS03009 – *DUAL Summer School* (Pre-undergraduate Course) Summer 2017

Associate Lecturer
- AC21011 – *Creative Interactions* (Processing & Java) 2017
- AC22006 – *Physical Computing* (Arduino & Java) 2016, 2017
- AC21010 – *Data Visualisation* (Processing & Java) 2015, 2016

Seminar Tutor
- AC12001 – *Introduction to Data Structures and Algorithms* (Java) 2018

Teaching Assistant
University of Dundee, Dundee, Scotland, U.K. 2014 – 2015
- Marking of undergraduate assignments on two first year Java courses: AC11001 – Introduction to Software Development and AC12001 – *Introduction to Data Structures and Algorithms*.
- Marked assignments within a weekly turnover period and provided students with detailed feedback.

Analytics Developer
Dynamo Games, Dundee, Scotland, U.K. June 2011 – January 2012
- Worked in an award-winning Scottish game development studio, I co-developed a system that tracked and analysed Facebook player data that was used to direct future game development.

PEER-REVIEWED PUBLICATIONS (Conference Papers)

1. Garreth W Tigwell, **Benjamin M Gorman**, and Rachel Menzies, 2020. "Emoji Accessibility for Visually Impaired People". In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems. ACM, New York, NY.
2. **Benjamin M. Gorman** and David R. Flatla, 2018. "MirrorMirror: A Mobile Application to Improve Speechreading Acquisition". In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems. ACM, New York, NY.
3. **Benjamin M. Gorman** and David R. Flatla, 2017. "A Framework for Speechreading Acquisition Tools" In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems. ACM, New York, NY.

4. **Benjamin M. Gorman**, 2014. "VisAural: a wearable sound-localisation device for people with impaired hearing." Proceedings of the 16th international ACM SIGACCESS conference on Computers & Accessibility. ACM, New York, NY.

WORKSHOP ORGANISATION (Workshop Proposals)

1. Gleason, Cole, Patrick Carrington, Lydia B. Chilton, **Benjamin M. Gorman**, Hernisa Kacorri, Andrés Monroy-Hernández, Meredith Ringel Morris, Garreth W. Tigwell, and Shaomei Wu. 2019 "Addressing the Accessibility of Social Media." In *Conference Companion Publication of the 2019 on Computer Supported Cooperative Work and Social Computing (CSCW 2019)*. ACM, New York, NY.

2. Tigwell, Garreth W., Zhanna Sarsenbayeva, **Benjamin M. Gorman**, David R. Flatla, Jorge Goncalves, Yeliz Yesilada, and Jacob O. Wobbrock, 2019. "Addressing the challenges of situationally-induced impairments and disabilities in mobile interaction." In *Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems (CHI 2019*. ACM, New York, NY.

WORKSHOP PAPERS (Juried – Other)

1. Michael Mauderer, Garreth W. Tigwell, **Benjamin M. Gorman**, David R. Flatla, 2017. "Beyond Accessibility: Lifting Perceptual Limitations for Everyone." Proceedings of the *CHI 2017 Workshop on Amplification and Augmentation of Human Perception.*

2. **Benjamin M. Gorman**, 2016. "Reducing viseme confusion in speechreading" ACM SIGACCESS Accessibility and Computing. 114, 36 - 43. ACM, New York, NY.

3. Sylwester Arabas, Michael R. Bareford, Lakshitha R. de Silva, Ian P. Gent, **Benjamin M. Gorman**, Masih Hajiarabderkani, Tristan Henderson, Luke Hutton, Alexander Konovalov, Lars Kotthoff, Ciaran McCreesh, Miguel A. Nacenta, Ruma R. Paul, Karen E. J. Petrie, Abdul Razaq, Daniël Reijsbergen, and Kenji Takeda, "Case Studies and Challenges in Reproducibility in the Computational Sciences", *First Summer School on Experimental Methodology in Computational Science Research, St Andrews*, August 4-8, 2014.

4. **Benjamin M. Gorman** and David R. Flatla, "VisAural: A Tool for Converting Audible Signals into Visual Cues", Proceedings of CHI 2014 Workshop on Assistive Augmentation, Toronto, Canada, 2014

PRESENTATIONS

Conference Paper Presentation "MirrorMirror: A Mobile Application to Improve Speechreading Acquisition" 2018, *20 minutes. CHI 2018, Montréal, Quebec, Canada.*

Conference Paper Presentation "A Framework for Speechreading Acquisition Tools" 2017, 20 minutes. *CHI 2017, Denver, Colorado. U.S.A.*

Invited Speaker "A Framework for Technology to Improve Speechreading" 2016, 60 minutes. *Speech and Hearing Sciences Department, Queen Margaret University, Edinburgh, Scotland, U.K.*

Doctoral Training Day - Discussion Primer "A Mathematical Description of the Speed/Accuracy Trade-off of Aimed Movement" 2015. 10 minutes. *British HCI 2015, Lincoln, England, U.K.*

Doctoral Consortium "Reducing viseme confusion in speech-reading" 2015, 20 minutes. *ASSETS 2015, Lisbon, Portugal.*

Doctoral Consortium "Improving Speechreading by Visualising Phonemes" 2015, 20 minutes. SICSA HCI DC 2015, Dundee, Scotland, U.K.

Student Research Competition "VisAural: a wearable sound-localisation device for people with impaired hearing" 2014, 15 minutes. *ASSETS 2014, Rochester, NY, USA. - Awarded Graduate SRC 1st Place - Gold Medal and $500 USD.*

Dundee University Computing Department Ph.D. Symposium *(2014, 2015, 2016, 2017). 20 minutes. Dundee, Scotland, U.K.*

GRANTS & FUNDING

ASSETS 2015: Accepted to attend the Doctoral Consortium at Assets 2015. Awarded full travel and accommodation costs for the duration of the conference. **(£1250)**

British HCI 2015: Accepted to attend the Doctoral Consortium at British HCI 2015. Awarded full travel and accommodation costs for the duration of the conference. **(£500)**

ASSETS 2014: Accepted to attend the Student Research Competition at Assets 2014. Awarded travel and accommodation costs. (**US$500**)

Experimental Methodology in Computational Science Research Summer School, St Andrews University - 2014: Awarded accommodation and workshop costs. **(£500)**

SUPERVISON EXPERIENCE

M.Sc. Student Supervision
- Elysia Jones – "Understanding the Accessibility of Social Media Profile Stories" – M.Sc Information Technology (May –August 2020)

B.Sc. Honours Student Supervision (Selected – Total Supervised: 16)
- Ben Troup – "Development of a Web Application to Help Photographers Find New Shooting Locations" (January–May 2020)
- Kamil Plewczynski – "User Centred Development of a Web Application to Support Equipment Distribution in Community Children Nursing." (January–May 2020)
- Matthew Southcott – "Developing Security Guidelines for Consumer Internet of Things (IoT) Devices" (January – May 2020)
- Ren Hallet – "Creating a Prototype of a Location Based Reminder App to Assist the Transition from Home to University" (January– May 2020)
- Travis Howarth – "User Centred Design of a Visual Password Tool" (January–May 2020)
- Matthew Green – "User Centred Design of Data Monitoring System for Smart Home Devices" (January–May 2020)
- James Francescon – "User Centred Design of a GDPR Compliance Checklist" (January–May 2020)
- Nick Jablonka – "User Centred Development of a Social Media Planning Tool" (January–May 2020)

Nuffield Research Placement Students (High School students)
- Ben Harper – "Physical Games in the Workplace" (June – August 2016)
- Hamish Neil – "Visualising Sounds to Aid the Deaf and Hard of Hearing" (June – August 2015)

PROFESSIONAL SERVICE

Program Committee Membership
Technical Papers (Accessibility Subcommittee) - CHI 2021	2021
Technical Papers - ASSETS 2020	2020
Technical Papers (Accessibility Subcommittee) - CHI 2020	2020
Program Committee (PC) Member, Late Breaking Work - CHI 2019	2019
Program Committee (PC) Member, Late Breaking Work - CHI 2018	2018

Academic Paper Reviewing   2014 – Present
Special Recognition for Reviewing: MobileHCI 2019 Papers	2019
Special Recognition for Reviewing: CHI 2017 Papers and Notes	2017

Venue – year (# of papers) Total (57):
- ASSETS 2020 Technical Papers (6)
- CHI 2020 Papers (15)
- CHI 2019 LBW (11)
- CHI 2019 Papers (2)
- CHI 2019 Workshops/Symposia (1)
- CHI 2019 Student Design Competition (2)
- DIS 2019 Papers (1)
- DIS 2019 Provocations and WIP (1)
- INTERACT 2019 Full Papers (1)
- MobileHCI 2019 Papers (1)
- CHI 2018 Late Breaking Work (3)
- TACCESS Journal Paper: 2017 (1)
- CHI 2017 Papers and Notes (1)
- CHI 2017 Student Research Competition (1)
- DIS 2017 Papers and Notes (2)
- GI 2017 HCI (1)
- DIS 2016 Provocations & WIP (4)
- CHI 2015 Papers and Notes (1)
- CHI 2015 WIP (1)
- Mobile HCI 2014 Demonstrations (1)