GRETA WARREN

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EDUCATION

Ph.D., School of Computer Science, University College Dublin, Ireland — Expected Feb 2024

- Dissertation: *User-centred counterfactual explanations for explainable AI*
- Supervisors: Prof. Mark Keane and Prof. Ruth Byrne

B.A. (Hons), Psychology, Trinity College Dublin, University of Dublin, Ireland — Nov 2018

- Dissertation: *Effects of additive and subtractive counterfactual thinking on choice of political candidate*
- Supervisor: Prof. Ruth Byrne

RESEARCH

Accenture Collaboration, Accenture Labs, The Dock, Dublin — 2022 - 2023

- Jointly coordinated a collaborative project on group counterfactual explanations: responsible for the management of the project and liaising between Accenture and UCD, reported to the Managing Director at Accenture Labs and PI at UCD.
- Developed a methodology for testing our proposed model, created test materials, performed a user study, analysed the results and prepared an article for publication.

Research Assistant, Trinity College Institute of Neuroscience, Trinity College Dublin, Ireland — 2018 - 2019

- Recruited participants and collected electroencephalography (EEG), pupillometric and neuropsychological data, conducted data entry, processing and analysis, compiled hospital research ethics applications
- Delivered talk on brain injury research to patients and staff in National Rehabilitation Hospital, Dublin

TEACHING

Teaching Assistant, School of Computer Science, University College Dublin Dublin, Ireland — 2020 - 2022

- 2020-2022 Text Analytics, MSc course, coordinated demonstrators and administration, prepared lab materials, led lab sessions and graded assignments
- 2021-2022 Data Science in Python, MSc course, prepared lab materials and facilitated lab sessions
- 2020-2022 Introduction to Programming, BSc course, prepared lab materials, facilitated lab sessions and graded assignments
- 2020-2021 Programming I & Object-Oriented Programming, MSc course, prepared lab materials, facilitated lab sessions and graded assignments

SKILLS

Research Design: Designing and conducting large-scale human behavioural experiments. Extensive experience with Prolific Academic, Alchemer, Survey Monkey and Qualtrics.

Software: SPSS, G*power (expert), Python, sklearn, R, LaTeX(proficient), HTML (basic)

Explainable AI: Implementing and comparative evaluation of explainable AI methods in computational experiments.

Science Communication: Disseminating research methodology and results at high-impact international conferences. Communicating psychological and technical research findings to industry audiences and the general public.

AWARDS & SCHOLARSHIPS

Gary Marsden Travel Award, ACM SIGCHI €4,000 Mar 2023
Doctoral Consortium Scholarship, ICCBR 2022 €500 Sep 2022
Travel Award, ACM FAccT 2022 €1,500 Jun 2022
1st Prize, Arthur Cox Alternative Perspectives Essay Competition, Trinity College Law Review May 2018
First Class Award, Trinity College Dublin Sep 2015
Entrance Exhibition, Trinity College Dublin €150 Sep 2014
All Ireland Scholarship, JP McManus Trust 4 year scholarship, €6,750 p.a. Sep 2014

PROFESSIONAL SERVICE

Programme Committee Member

Annual Meeting of the Cognitive Science Society (CogSci) 2024

ACM Conference on Intelligent User Interfaces (IUI) – Poster and Demo Track 2023,2024

AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES) 2022,2023

Workshop on Explainable AI at International Joint Conference on Artificial Intelligence (XAI @ IJCAI) 2023

Workshop on Cognitive Aspects of Knowledge Representation at Knowledge Representation (CAKR @ KR) 2023

Irish Conference on Artificial Intelligence and Cognitive Science (AICS) 2021

Journal Reviewing

Decision Support Systems 2023

Expert Systems 2022

PUBLICATIONS

Journal Articles

- **Greta Warren**, Ruth M. J. Byrne, and Mark T. Keane. Categorical and continuous features in counterfactual explanations of AI systems. *ACM Transactions on Interactive Intelligent Systems Special Issue on Highlights of IUI 2023 (Under review)*, 2024
- Catherine N. Moran, David P. McGovern, **Greta Warren**, Rónán Ó Grálaigh, Joanne P. M. Kenney, Alan Smeaton, and Paul M. Dockree. Young and restless, old and focused: Age-differences in mind-wandering frequency and phenomenology. *Psychology and aging*, 36(2):252, 2021. doi:10.1037/pag0000526

Conference Proceedings

- **Greta Warren**, Ruth M. J. Byrne, and Mark T. Keane. Categorical and continuous features in counterfactual explanations of AI systems. In *Proceedings of the 28th International Conference on Intelligent User Interfaces*, IUI '23, pages 171–187, New York, NY, USA, 2023. Association for Computing Machinery. doi:10.1145/3581641.3584090
- **Greta Warren**, Barry Smyth, and Mark T. Keane. Better counterfactuals, ones people can understand: Psychologically-plausible case-based counterfactuals using categorical features for explainable AI (XAI). In Mark T. Keane and Nirmalie Wiratunga, editors, *Case-Based Reasoning Research and Development: 30th International Conference, ICCBR 2022, Nancy, France, September 12–15, 2022, Proceedings*, pages 63–78, Berlin, Heidelberg, 2022. Springer-Verlag. doi:10.1007/978-3-031-14923-8_5

Workshops and Symposia

- **Greta Warren**, Mark T. Keane, Christophe Gueret, and Eoin Delaney. Explaining groups of instances counterfactually for XAI: A use case, algorithm and user study for group-counterfactuals. *IJCAI-23 Workshop on Explainable Artificial Intelligence (XAI)*, 2023. doi:10.48550/arXiv.2303.09297
- **Greta Warren**, Mark T. Keane, and Ruth M. J. Byrne. Features of explainability: How users understand counterfactual and causal explanations for categorical and continuous features in XAI. In *IJCAI-ECAI'22 Workshop: Cognitive Aspects of Knowledge Representation*, 2022. doi:10.48550/arXiv.2204.10152
- Jörg Cassens, Lorenz Habenicht, Julian Blohm, Rebekah Wegener, Joanna Korman, Sangeet Khemlani, Giorgio Gronchi, Ruth M. J. Byrne, **Greta Warren**, Molly S. Quinn, and Mark T. Keane. Explanation in human thinking. In *Proceedings of the 43rd Annual Meeting of the Cognitive Science Society*, 2021. URL: https://escholarship.org/content/qt9k6291nk/qt9k6291nk.pdf

Invited Talks

- **Greta Warren** (December, 2022). Simplicity and complexity in explanations of diagnoses and predictions. *Reasoning and Imagination Lab, Trinity College Dublin.*
- **Greta Warren** and Eoin Delaney (November, 2022). Group counterfactual explanations for AI predictions. *Accenture Labs at The Dock, Dublin.*
- **Greta Warren** (November, 2021). Counterfactual and causal explanations in eXplainable AI (XAI). *Reasoning and Imagination Lab, Trinity College Dublin.*