

Katie Warburton

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Education

Ph.D. in Cognitive Science

University of Melbourne; University of Toronto

2021 - present

Melbourne, Australia; Toronto, Canada

- **Supervisors:** Charles Kemp, Yang Xu, Lea Frermann

- Jointly awarded degree from the UoT-UoM International Research Training Group

B.Comp (Hons) with a Specialization in Cognitive Science

Queen's University

2017 - 2021

Kingston, Canada

- GPA: 4.2

- Received the medal in computing which is awarded to the student who has achieved the highest standing in a plan offered by the awarding department.

Research Experience

UofT-UoM International Research Training Group

Sept. 2021 - Present

Doctoral Candidate

- **Thesis:** A Computational Analysis of the Structure and Evolution of Hierarchical Category Systems

- **Supervisors:** Charles Kemp, Yang Xu, Lea Frermann

- Previously developed computational methods for quantifying biases in hierarchical category systems, using library classification systems and subject headings as case studies

- Currently combining computational and experimental methods to explore sequence effects in the evolution of hierarchical category systems

Queen's School of Computing

May 2020 - April 2021

Undergraduate Thesis

- **Title:** Using Correlations of Word Frequency to Find Clusters in Unstructured Radiology Reports

- **Supervisor:** Randy Ellis

- Researched and implemented methods for the natural language processing of lung cancer radiology reports

- Applied topic modeling and clustering algorithms to aid in report processing

- Funded by an NSERC Undergraduate Student Research Award

Dept. of Languages, Literatures and Cultures, Queen's University

June 2019 - Aug. 2019

Undergraduate Research Assistant

- **Supervisors:** Nathan Thanyehténhas Brinklow, Lorena Jessop

- Assisted with the development of an automatic speech recognition model for Kanyen'kéha, a polysynthetic language

Publications

Warburton, K., Kemp, C. & Frermann, L. (2025). Scientists & Women Scientists: Exploring Gender Biases in Institutional Category Systems. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 47.

Warburton, K., Kemp, C., Xu, Y. & Frermann, L. (2024). Quantifying Bias in Hierarchical Category Systems. *Open Mind: Discoveries in Cognitive Science*, 8, 102-130.

Warburton, K., Kemp, C., Xu, Y. & Frermann, L. (2023). Quantifying Bias in Library Classification Systems. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 45.

Presentations

Warburton, K., Kemp, C., & Frermann, L. (July, 2025). *Scientists & Women Scientists: Exploring Gender Biases in Institutional Category Systems*. Annual Meeting of the Cognitive Science Society, San Francisco CA, United States. Conference Poster.

Warburton, K. (July, 2025). *Categorization in Practice: Insights from Library Classification Systems*. Lupyan Lab, Madison WI, United States. Presentation.

Warburton, K., Kemp, C., Xu, Y. & Frermann, L. (July, 2023). *Quantifying Bias in Library Classification Systems*. Annual Meeting of the Cognitive Science Society, Sydney, Australia. Conference Poster.

Teaching Experience

University of Melbourne

Academic Tutor

Melbourne, Australia

2024

- **PSYC30013:** Research Methods for Human Inquiry (Semester 1 2024)

University of Toronto

Guest Speaker

Toronto, Canada

November 2022

- **Title:** Quantifying Biases in Library Classification Systems
- **Course:** Data, Computation, and The Mind (COG260).

University of Toronto

Teaching Assistant

Toronto, Canada

2021-2022

- **CSC199:** Intelligence, Artificial and Human (Fall Term 2022)
- **CSC2611:** Computational Models of Semantic Change (Fall Term 2022)
- **CSC110:** Foundations of Computer Science (Fall Term 2021)

Queen's University

Teaching Assistant

Kingston, Canada

2018-2021

- **CISC352:** Artificial Intelligence (Winter Term 2021)
- **COGS201:** Cognition and Computation (Fall Term 2019; 2020)
- **COGS100:** Introduction to Cognitive Science (Summer Term 2019; Winter Term 2020)
- **CISC121:** Introduction to Computer Science (Fall Term 2018)

Awards

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| 2023- 2026 | Melbourne Research Scholarship , University of Melbourne |
| 2021 | Medal in Computing , Queen's University |
| 2020 | NSERC Undergraduate Student Research Award , Queen's University |
| 2018-2021 | Dean's Honour List , Queen's University |
| 2018 | Queen's Appeal Undergraduate Scholarship , Queen's University |
| 2017 | Principal's Scholarship , Queen's University |

Outreach & Professional Development

PEER REVIEW

Annual Meeting of the Cognitive Science Society

SERVICE & OUTREACH

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|-------------|--|--------------------------------|
| 2024 - 2025 | Graduate Researchers in Psychological Sciences (GRiPS) , President | <i>University of Melbourne</i> |
| 2023 | Science Rendevous UofT , Volunteer | <i>University of Toronto</i> |
| 2019 - 2020 | Computing Students Association , Governance & Internal Affairs Director | <i>Queen's University</i> |

ASSOCIATION MEMBERSHIPS

Cognitive Science Society

Skills

Programming Languages: Python, Javascript, R, MATLAB, Prolog, Java, Haskell.

Other: L^AT_EX, HTML/CSS, SQL, and Markdown.