Caleb Schultz Kisby

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RESEARCH INTERESTS

AI. Neural-Symbolic AI, Logical Foundations, Knowledge Representation
Logic. Dynamic Doxastic Logics, Belief Revision, Nonmonotonic Reasoning, Formal Verification

EDUCATION

PhD Candidate in Computer Science (in progress)   2018 – Present
Indiana University   GPA: 3.75
Advisors: Larry Moss, Saúl Blanco
Committee: David Leake

BS in Computer Science and Mathematics   2014 – 2018
University of South Carolina   GPA: 3.97

EMPLOYMENT

Research Assistant   Spring 2022 – Present
Department of Computer Science   Fall 2018 – Spring 2019
Indiana University

Teaching Assistant   Summer 2019 – Fall 2021
Department of Computer Science
Indiana University

AWARDS & GRANTS

∘ Nominated Best Student Paper for "The Logic of Hebbian Learning", FLAIRS, May 2022
∘ US Department of Defense *Trusted AI* Grant (helped write project proposal), Jan 2022 – Present
∘ Indiana University Department of Computer Science, Paul Purdom Fellowship, Aug 2018 – May 2019
∘ University of South Carolina Outstanding Senior in Computer Science, Apr 2018
∘ University of South Carolina Jeong S. Yang Award for Excellence in Undergraduate Mathematics, Apr 2018
∘ University of South Carolina Thomas Markham Mathematics Scholarship, Apr 2017
∘ University of South Carolina Magellan Scholar Undergraduate Research Grant (USD 2,500), Jan 2017

PUBLICATIONS

FLAIRS 2022	**The Logic of Hebbian Learning** (first author), with Saúl A. Blanco and Lawrence Moss.	[pdf]
AAAI 2020	**Logics for Sizes with Union or Intersection** (first author), with Saúl A. Blanco, Alex Kruckman, and Lawrence Moss.	[pdf]
ICCBR 2019	**CBR Confidence as a Basis for Confidence in Black Box Systems** with Lawrence Gates and David Leake.	[pdf]

UNDER REVIEW

| AAAI 2024 | **Reduction Axioms for Unstable Hebbian Learning** (first author), with Saúl A. Blanco and Lawrence Moss. Under review. |

TALKS

- A Semantic Theory for Neuro-Symbolic AI, IU Cognitive Lunch, Indiana University, Feb 2023
- The Logic of Hebbian Learning, FLAIRS 2022, Jensen Beach, May 2022
- The Logic of Hebbian Learning, IU Logic Seminar, Indiana University, May 2022
- From Logic to Hebbian-Learned Nets and Back, Trusted AI Project Meeting, Bloomington, Mar 2022
- Logics for Sizes with Union or Intersection, AAAI 2020, New York, Feb 2020
- Logics for Sizes with Union or Intersection, IU Logic Seminar, Indiana University, Sep 2019
- CBR Confidence as a Basis for Confidence in Black Box Systems, ICCBR 2019, Otzenhausen, Sep 2019

PROFESSIONAL ACTIVITIES

- Local Organizer for the Conference on Algebra and Coalgebra in Computer Science (CALCO 2023) and the Conference on the Mathematical Foundations of Programming Semantics (MFPS XXXIX), June 2023
- Reviewer for the Journal of Logic, Language, and Information, May 2019

TEACHING

Indiana University (Teaching Assistant)
- Introduction to Programming, Fall 2020, Spring 2021, and Fall 2021
- Discrete Structures, Summer 2019, Spring 2020, and Summer 2021
- Theory of Computation, Fall 2019 (PhD & undergraduate level)

University of South Carolina (Undergraduate Teaching Assistant)
- Discrete Structures, Fall 2016 and Spring 2016
- Calculus I, Fall 2015
- Calculus II, Spring 2015