Mark **Edmonds**

Artifical Intelligence · Cognitive Science · Robotics

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Education ────────────────────────────────

University of California, Los Angeles (UCLA), Los Angeles, CA

Ph.D. in Computer Science, Artifical Intelligence Concentration; Advisor: Prof. Song-Chun Zhu   *Expected Jun 2021*
Dissertation: "Learning how and why: Causal learning and explanation from physical and interactive environments."

M.S. in Computer Science; Advisor: Prof. Song-Chun Zhu   *Jun 2017*
Thesis: "Learning Complex Functional Manipulations by Human Demonstration and Fluent Discovery."

University of Dayton, Dayton, OH

B.S. in Computer Engineering; Magna Cum Laude; Advisor: Prof. Tarek Taha   *May 2015*
Thesis: High Performance Declarative Memory through MapReduce."

Skills ────────────────────────────────

Programming	Python, C/C++, Shell, LaTeX, Matlab, PyTorch, Javascript, HTML5, CSS, Node.JS, Java, CUDA
Topics	Machine Learning, Graphical Models, Robotics, Cognitive Science, Explainable AI, Reinforcement Learning, Bayesian Networks, Statistical Modeling

Experience ────────────────────────────────

University of California, Los Angeles, Graduate Student Researcher, Computer Science Department, Los Angeles, CA   *Sep 2015 - Present*

- Studying causal learning for generalization and transfer learning by using causal theory induction. Compared against human performance to understand how humans reason about causal representations.
- Investigating explainable AI (XAI) to foster human trust by using communicative learning and interpretable robot policies.
- Studied imitation learning with a tactile glove to transfer complex human manipulation demonstrations by using a haptic neural network and an And-Or Graph.

Santa Monica College, Adjunct Professor, Computer Science Department, Santa Monica, CA   *Jun 2016 - Present*

- CS 80, Internet Programming, a class focused on HTML, CSS, JavaScript, MySQL, and PHP.
- CS 50, Introduction to C Programming, a class focused on C fundamentals.
- CS 52, Introduction to C++ Programming, a class focused on C++ fundamentals.

International Center for AI and Robot Autonomy, Robotics Research Engineer Intern, Los Angeles, CA   *Jun 2018 - Mar 2020*

- Built virtual environment for embodied AI that couples language and vision to learn transferrable representations of the environment.

UCLA Radio, Deep End Theory Podcast Host, Los Angeles, CA   *Jan 2016 - Jan 2020*

- Hosted a podcast focused on electronic music that garnered tens of thousands of plays and interviewed some of my favorite electronic music producers.

Garmin International, Software Engineering Intern, Aviation Department, Olathe, KS   *May 2013 - Aug 2013*

- Reduced testing time by 40% for the Datalink team by optimizing timing protocols while adhering to safety standards, saving hundreds of vendor-certification testing time hours.

Cristo Rey Kansas City High School, Summer School Teacher, Kansas City, MO   *May 2011 - Aug 2012*

- Taught pre-calculus and chemistry at a high school focused on college placement for underrepresented groups.

Publications ────────────────────────────────

- Three journal publications in *Science Robotics*, *Engineering*, and *TPDS*. *Science Robotics* article covered by media outlets such as *IEEE Spectrum*, *Cosmos Magazine*, and *The Conversation*.
- Seven conference publications published in *AAAI*, *CVPR*, *IROS*, *ICRA*, and *CogSci* (first-author of five; oral presentations at four).
- For a complete list of publications, please see my CV, my website (mjedmonds.com) or Google Scholar (ycAoqlAAAAAJ).