

IRINA RABKINA

irabkina.github.io

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EDUCATION

Northwestern University, Evanston, IL

Ph.D. in Computer Science, Certificate in Cognitive Science 2020 (Expected)

Thesis: *Analogical Theory of Mind: Computational Model and Applications*

Committee: Kenneth D. Forbus (chair), Dedre Gentner, Laura M. Hiatt, Ian Horswill

Loyola University Chicago, Chicago, IL

M.S. in Computer Science 2015

Coursework only

Scripps College, Claremont, CA

B.A. Honors in Neuroscience 2014

Minor: Computer Science

Thesis: *Examining the Cognitive Advantages and Disadvantages of the Bilingual Brain*

Advisors: Michael Spezio and Timothy Justus

PUBLICATIONS

JOURNAL ARTICLES

Rabkina, I. and Forbus, K. D. An Analogical Model of Pretense. In revision.

Forbus, K. D., Liang, C., & **Rabkina, I.** (2017). Representation and Computation in Cognitive Models. *Topics in Cognitive Science*, 9(3), 694-718.

CONFERENCE PROCEEDINGS

Rabkina, I., Nakos, C., & Forbus, K. D. (2019) Children's Sentential Complement Use Leads the Theory of Mind Development Period: Evidence from the CHILDES Corpus. *Proceedings of the 41st Meeting of the Cognitive Science Society*, Montreal, Canada.

Chen, K., **Rabkina, I.**, McLure M. D., & Forbus, K. D. (2019) Human-like Sketch Object Recognition via Analogical Learning. *Proceedings AAAI 2019*, Honolulu, HI.

Rabkina, I., McFate, C., & Forbus, K. D. (2018) Bootstrapping from Language in the Analogical Theory of Mind Model. *Proceedings of the 40th Annual Meeting of the Cognitive Science Society*, Madison, WI.

Forbus, K. D., Hinrichs, T., & **Rabkina, I.** (2018). Building Analogy Systems: Some Lessons Learned. *Proceedings of the 6th Annual Conference on Advances in Cognitive Systems*. Stanford, CA.

Rabkina, I., McFate, C., Forbus, K. D., & Hoyos, C. (2017) Towards a Computational Analogical Theory of Mind. *Proceedings of the 39th Annual Meeting of the Cognitive Science Society*, London, England.

WORKSHOPS AND OTHER PRESENTATIONS

- Blass, J., **Rabkina, I.**, and Forbus, K. D. (2017) Towards a Domain-independent Method for Evaluating and Scoring Analogical Inferences. *Computational Analogy Workshop, International Conference on Case Based Reasoning*. Trondheim, Norway.
- Rabkina, I.** and Forbus, K.D. (2016) An Analogical Model of Pretense. Poster presented at the *38th Annual Meeting of the Cognitive Science Society*. Philadelphia, PA.
- Rabkina, I.** and Justus, T. (2016) Bilingual English-Spanish Speakers Demonstrate Language-switching Costs, but no Bilingual Advantage, in a Modified Stroop Task. Poster presented at the *Association for Psychological Science*. Chicago, IL.
- Rabkina, I.**, Lima Nogueira, L, and Albert, M. V. (2015) Real-time Activity Recognition Using Mobile Sensors: An Online Graphical Front-end. Poster presented at the *45th Annual Meeting of the Society for Neuroscience*. Chicago, IL.
- Rabkina, I.** The Intersection of the Bilingual Advantage and Disadvantage. (2014) *Scripps College Capstone Presentations*. Claremont, CA.
- Rabkina, I.** Computational Modeling of Bilingual Language Acquisition and Interference in Bilingual Choice. (2013) Poster presented at the *Fall Neuroscience Thesis Symposium of the W.M. Keck Science Department*. Claremont, CA.
- Rabkina, I.** and Barazza, J. The Role of Sensitivity to Positive/Negative Valence in Polyvagal Theory. (2013) Poster presented at the *The Faculty for Undergraduate Neuroscience Poster Session*. San Diego, CA.
- Rabkina, I.** Narrative Values and Moral Action: Investigating Links by Combining Quantitative Semantic Analysis and Behavioral Economics. (2013) *Mellon Fellowship Undergraduate Research Presentations*. Claremont, CA.

AWARDS

Summer Research (NREIP) Fellowship, Naval Research Laboratory	2018
Glushko Travel Award, Cognitive Science Society	2018
Graduate Cohort for Women Participant, Computing Research Association	2018
Cabell Fellowship, Northwestern University	2015
Merit-based Teaching Assistantship, Loyola University Chicago (did not accept)	2014
Claremont Neuroscience Research Fellowship, Scripps College	2013
Mellon Research Fellowship, Scripps College	2013
James E. Scripps Scholarship, Scripps College	2010

TEACHING EXPERIENCE

NORTHWESTERN UNIVERSITY

Course Consultant: Conversational Interfaces	Spring 2019
Co-Instructor: Knowledge Representation & Reasoning	Winter 2019
Workshop Instructor: Computing Everywhere	2018, 2019
Teaching Assistant: Introduction to Cognitive Modeling	Fall 2016, 2017

POMONA COLLEGE

Peer Mentor: Computation & Cognition

Spring 2014

Peer Mentor: Foundations of Computer Science

Fall 2013

RESEARCH EXPERIENCE**NORTHWESTERN UNIVERSITY**

Research Assistant, Qualitative Reasoning Group

2015—present

My work focuses on the social reasoning capabilities of the Companion Cognitive Architecture. Specifically, I have developed a cognitive model of theory of mind reasoning via analogy and am applying it to improve virtual agents' interaction and collaboration in multi-agent (virtual and human-virtual mixed) environments.

NAVAL RESEARCH LABORATORY

NREIP Intern, Navy Center for Applied Research in Artificial Intelligence

2018

Collaborated with NRL researchers and interns to build an experimental middleware to connect the Microsoft Malmo Minecraft environment with a variety of planning and reasoning systems.

LOYOLA UNIVERSITY OF CHICAGO

Research Assistant, Pervasive and Ambient Computing Lab

2014 – 2015

PITZER COLLEGE

Senior Thesis Student, Music and Language Cognition Lab

2013 – 2014

STANFORD UNIVERSITY

Summer Research Assistant, Cognitive and Systems Neuroscience Laboratory

2013

CLAREMONT GRADUATE UNIVERSITY

Undergraduate Research Assistant, Center for Neuroeconomics Studies

2012 – 2014

SCRIPPS COLLEGE

Research Assistant, Spezio Lab

2011 – 2013

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Summer Student, Swanson Lab

2009, 2011

SERVICE TO PROFESSION**REVIEWING**

Cognitive Science Society, International Conference on Case Based Reasoning (ICCBR)

ORGANIZING

Special Track on Computational Analogy, ICCBR 2018

SERVICE TO DEPARTMENT**COMPUTER SCIENCE DEPARTMENT, NORTHWESTERN UNIVERSITY**

Graduate Women in Computing, Founder & Co-President 2019 – present
Artificial Intelligence Journal Club, Leadership Board Member 2017 – present
Computer Science PhD Advisory Council, Founding Member 2017 – 2018

KECK SCIENCE DEPARTMENT, CLAREMONT, CA

Socializing with Scientists, Leadership Board Member 2013 – 2014

PROFESSIONAL EXPERIENCE

HERE Maps, Chicago, IL
Software Engineer 2014 – 2015
Built and maintained front-end interface to large-scale noSQL database. Trained and supported non-technical internal customers on interface and database use.

COMMUNITY INVOLVEMENT

She Is Code, Evanston, IL
Advisory Board Member 2016 – present
Curriculum and Instruction Volunteer 2015 – present