Dr. Aaron Mininger

CONTACT INFORMATION

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PROFESSIONAL SUMMARY

PhD graduate from the University of Michigan whose work centers on developing an agent's reasoning strategies to deal with real-world uncertainty and partial observability and extending the scope and breadth of tasks which can be learned through instruction. I am passionate about teaching and have started as a professor at the Université Chrétienne Bilingue du Congo in eastern DRC with the goal of developing Congolese students into future engineers and leaders who can bring solutions to many of the challenges facing their country. As an educator, I strive to foster strong mentoring relationships with students and create an active classroom environment that stresses problem-solving and practical experience.

RESEARCH INTERESTS

Artificial Intelligence, Interactive Task Learning, Cognitive Robotics, Interactive Agents, Cognitive Architectures

EDUCATION

University of Michigan, Ann Arbor, MI USA
Ph.D., Computer Science and Engineering *2021*

University of Michigan, Ann Arbor, MI USA
M.S.E., Computer Science and Engineering *2013*

Grove City College, Grove City, PA USA
B.S., Computer Science *2011*

TEACHING EXPERIENCE

Université Chrétienne Bilingue du Congo, Beni, DRC
Professor of Sciences Appliquées *Spring 2022-present*

University of Michigan, Ann Arbor, MI USA
Practice Teaching Session Facilitator
Engineering GSI and IA Orientations *Fall 2018*

Primary Instructor
EECS 280: Programming and Introductory Data Structures *Fall 2017*

Graduate Student Instructor
EECS 592: Introduction to Artificial Intelligence *Fall 2016*

Grove City College, Grove City, PA USA
ACM Tutor, offering free computer science help *2010-2011*

PUBLICATIONS

Aaron Mininger. Expanding Task Diversity in Explanation-Based Interactive Task Learning. *PhD Thesis at the University of Michigan*. 2021.

Aaron Mininger, John E. Laird. Using Domain Knowledge to Correct Anchoring Errors in a Cognitive Architecture. *Advances in Cognitive Systems*. 2019.

John E. Laird, Shiwali Mohan, James Kirk, Aaron Mininger. Characteristics of the Learning Problem in Situated Interactive Task Learning. *Report from the Strungmann Forum for Interactive Task Learning.* 2019.

Aaron Mininger, John E. Laird. Interactively Learning a Blend of Goal and Procedural Tasks. *AAAI.* 2018.

Peter Lindes, Aaron Mininger, James Kirk, John E. Laird. Grounding Language for Interactive Task Learning. *Workshop on Language Grounding for Robotics.* 2017

John E. Laird, Shiwali Mohan, James Kirk, Aaron Mininger. Characteristics of the Learning Problem in Situated Interactive Task Learning. *Ernst Strungmann Forum on Interactive Task Learning*. 2017

Aaron Mininger, John E. Laird. Interactively Learning Strategies for Handling References to Unseen or Unknown Objects. *Advances in Cognitive Systems*, 2016.

James Kirk, Aaron Mininger, John E. Laird. Learning Task Goals Interactively with Visual Demonstrations. *Biologically Inspired Cognitive Architectures*, 2016.

Shiwali Mohan, James Kirk, Aaron Mininger, John E. Laird. Agent Requirements for Effective and Efficient Task-Oriented Dialog. *AAAI Fall Symposium*, 2015.

Shiwali Mohan, Aaron Mininger, John E. Laird. Towards an Indexical Model of Situated Language Comprehension. *Advances in Cognitive Systems*, 2014.

Shiwali Mohan, Aaron Mininger, James Kirk, John E. Laird. Learning Grounded Language through Situated Interactive Instruction. *AAAI Fall Symposium*, 2012.

Shiwali Mohan, Aaron Mininger, James Kirk, John E. Laird. Acquiring Grounded Representations of Words with Situated Interactive Instruction. *Advances in Cognitive Systems*, 2012.

PROFESSIONAL DEVELOPMENT

University of Michigan, Ann Arbor, MI USA

Preparing Future Faculty Seminar - 10 Sessions *May 2017*

Center for Research on Learning and Teaching Seminars

It's Time for Action: Generating an Active Learning Plan *Sept 2017*

Teaching to Retain Students in Engineering *Oct 2017*

Developing a Teaching Philosophy *Sept 2018*

INVITED TALKS

Using Domain Knowledge to Correct Anchoring Errors in a Cog. Arch.
Seventh Annual Conference on Advances in Cognitive Systems, Cambridge MA. Aug 2019.

Learning Tasks with Diverse Action Types
40th Soar Workshop, University of Michigan, MI. June 2020.
New Task Learning Capabilities in Rosie
39th Soar Workshop, University of Michigan, MI. June 2019.
Extending Task Learning in Rosie
37th Soar Workshop, University of Michigan, MI. June 2017

Interactively Learning a Blend of Goal-Based and Procedural Tasks
AAAI 2018 Conference, New Orleans, LA. January 2018. (Poster)
38th Soar Workshop, University of Michigan, MI. May 2018.
Michigan AI Symposium, University of Michigan, MI. November 2018. (Poster)

A Cognitive Architecture Approach to Interactive Task Learning
Grove City College, PA. April 2017.

Interactively Learning Strategies for Handling References to Unseen or Unknown Objects.
36th Soar Workshop, University of Michigan, MI. June 2016
Advances in Cognitive Systems, Northwestern University, IL. June 2016.

Going Mobile: The Future of the Rosie Project
35th Soar Workshop, University of Michigan, MI. June 2015.

A Demonstration of Interactive Task Learning (Demo)
IJCAI 2016, New York, NY. July 2016.
AAAI 2014 Robotics Exhibition, Québec City, Québec Canada. July 2014.

Using Top-Down Knowledge in Soar to Maintain Object Identity
34th Soar Workshop, University of Michigan, MI. June 2014.

Methods of Partitioning a Parallel Episodic Memory
33rd Soar Workshop, University of Michigan, MI. June 2013.

Learning Nouns and Adjectives in Bolt
32*nd Soar Workshop, University of Michigan, MI.* June 2012.