



## DISSERTATION DEFENSE



### Emily Bao

Towards Having Personalized,  
Situated, and Grounded  
Conversations with Human Like  
Human

Monday, April 14, 2025

3:00pm – 5:00pm

3941 Beyster

Hybrid – [Zoom](#) Passcode: baobao

**ABSTRACT:** Language is a powerful abstraction and adaptive tool that enables humans to communicate efficiently across diverse environments, audiences, and multisensory experiences. Learning language involves encoding the noisy, sensory-rich world into compact abstract representations, while using language requires decoding those representations back into multisensory experiences, flexibly combining learned knowledge to express intentions, and adapting communication based on context and audience. Despite recent advances, AI still struggles with language acquisition that is truly grounded in the multimodal world, efficient for lifelong learning, and adaptable to different situations and individuals—capabilities that are central to natural communication.

In this talk, I will present my research on developing AI systems inspired by human cognition and behavior to support more grounded, situated, and personalized interactions. By studying language used in real-world, situated settings, we identify persistent challenges in early language learning and introduce a human-inspired framework to tackle two key problems: multimodal grounding and developmental learning. By integrating multimodal perception, continual learning, situated and personalized adaptation, my work aims to bridge the gap between human and AI communication—bringing AI closer to the natural, flexible, and context-aware reasoning that characterizes human conversation.

**CHAIR:** Prof. Joyce Chai