

Introducing the Center for Integrated Cognition

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Mission

The mission of the **Center for Integrated Cognition (CIC)** is to be a world leader in *AI research* that combines *multiple reasoning and learning methods* and applies them across a *variety of domains*, drawing inspiration from *how people think and learn*.

Our goal is to fill key gaps in AI basic research by creating systems that sense and act; reason; plan; represent, remember, use, and create knowledge; interact with language; and learn robustly and flexibly from their experiences with the world, interactions with other agents, and their own internal reasoning.

We will also create accompanying tools and infrastructure to encourage and nurture a new generation of integrated cognitive systems.

Organization

- Non-profit research center
- Soft-money: Funding from government & industry
- Basic research on complete (end-to-end) systems
- Distributed organization headquartered in Ann Arbor

CIC is a division of the IQM Research Institute (IQMRI), a 501.3.C (non-profit) corporation.



CIC in Contrast to Mainstream AI

Recent high-profile AI successes tend to focus on narrowly-defined in data-rich domains. CIC is targeting broad competencies across many tasks.



Many tasks

Goal: AI systems that can do many things, including deciding which tasks are important.

Perform as you go

Goal: AI systems that learn to do new tasks as they interact in their environment. Rapid learning from a few experiences.

Integrated

Goal: Explicit emphasis on understanding how and why cognitive capabilities can be integrated (and not).

CIC Team



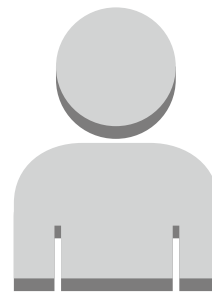
John Laird

Co-Director
Principal Cognitive
Architect



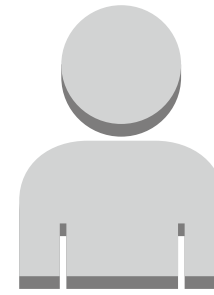
Bob Wray

Co-Director
Principal Scientist



Software Engineer

We will be hiring a
software engineer
in Fall 2021.



Researcher(s)

Interested in
integrated cognition?
Think about joining
us!

Talk to John or Bob if you want to learn more about joining the CIC or collaborating with us.

Near-term Efforts

What we plan to be working on for ~ next 12 months



Knowledge Extraction

Transferring info from natural language sources to semantic memory



Operationalizing behavior constraints

Enabling agents to incorporate norms, ethics in learning and performance



Rapid, Multi-source Learning

Human-like learning trajectories across multiple, simple games



Agent Design

Codifying end-to-end agent design when using all aspects of Soar

Nuggets

- New, exciting venture focused on cognitive architecture research.
- Emerging opportunities
(pendulum swinging toward cognitive systems)
- Potential for new results, tools, community participation, ...

Coal

- Just getting underway ...



Nuggets & Coal