Postdoctoral Scholar – Job Description

Department: Knowledge Lab
Division: Social Sciences Division
2026 spots filled. Accepting applications for 2027.

The University of Chicago Knowledge Lab (PI Professor James A. Evans) is seeking Postdoctoral Researchers to begin Summer/Fall 2027. Knowledge Lab is a leader in computational social science and is advancing the frontier of inquiry at the intersection of AI systems and social systems. The lab specializes in several focal areas of research. Scholars with interest in any / all of these domains are encouraged to apply:

(1) **Predicting and Steering the Future of Science and Technology**: We are assembling and linking massive digital archives of scientific research, patenting activity, and product development and commercialization. Leveraging this extensive data, we are training deep predictive models to forecast the most likely futures for scientific and technological advance, focusing on critical areas including semiconductors, biomedical, and energy. Using the representation spaces of these models, we seek to identify opportunities in the global science system that can be exploited to accelerate technological advance. Finally, we will estimate how policy regarding funding, training, and trade can reshape the global techno-scientific system, with the aim of discovering optimal policy interventions.

(2) **Human / AI Social Systems:** Workplaces, scientific laboratories, and online communities are increasingly populated by mixtures of human and AI agents. Even individual workers are becoming "cyborgs" as they rely on LLM assistants in both formulating and executing ideas. Yet we still know very little about the potential (and peril) of embedding AI agents in social systems. Knowledge Lab is exploring this emerging domain by simulating societies of diverse AI agents. Can we configure AI agent networks to augment creativity and to avoid "collapse"? Can AI agents regulate each other through decentralized checks and balances? How can AI help humans think better, learn faster, and organize ourselves more effectively?

(3) **Deciphering Digital Minds:** AI systems are commonly referred to as "black boxes," yet compared to human brains, they are exceedingly transparent. AI Interpretability research has already made great strides in identifying how patterns of internal activations correspond to the concepts considered and mental operations implemented during an LLM's forward pass. Beyond advancing the basic science of AI Interpretability, Knowledge Lab focuses on how *socially- and culturally-situated cognition* is implemented within LLMs. How are different worldviews encoded? Can we augment creativity by interpolating or extrapolating perspectives? How do models represent culturally variable conceptions of truth or goodness?

(4) **Building the Lab of the Future**: Knowledge Lab is positioning itself to take full advantage of the expanding potential of LLMs by integrating AI systems into the full stack of social scientific inquiry. We are finding ways to implement an "AI layer" on top of our data and code infrastructure such that researchers can work seamlessly in tandem with teams of agents to explore and execute research designs both interactively and asynchronously. Knowledge Lab is seeking researchers who are eager to integrate AI systems into their own research processes at all stages.

More information about the breadth of our research can be found at our website,

https://knowledgelab.org/

Job Summary: Knowledge Lab seeks applicants for a postdoctoral scholar position. The ideal candidate will have interest and experience in empirical research applying advanced computational methods to explore questions at the intersection of social science and AI. The successful candidate will work under the supervision of Professor James A. Evans.

This position is supported by two grants: 1) NSF: Global Observatory and Virtual Laboratory for Science and Technology Advance and 2) DARPA subaward from University of Illinois: Modeling and Measuring Scientific Creativity

Salary and Length

- $70,000 for 1 year, renewable (with available funding)

Responsibilities

- Research activities:
  - (10%) Collecting, cleaning, and linking datasets.
  - (40%) Generating novel discoveries through empirical analyses.
  - (20%) Disseminating findings through conference presentations and publications.
- (10%) Shared supervision of 2-3 student workers with Prof. Evans
  - Supervising students who will collect, transform, and process raw and unstructured data into usable formats.
  - Instruct students, analyze large datasets and deep learning models.
- (10%) Participating in weekly lab meetings and collaborate with other researchers in collaborative projects.
- (10%) Performing other related work as needed.

Minimum Qualifications

- Education: Ph.D. in the social science (e.g., sociology, economics, political science, communications) or computational sciences (e.g., computer science, informatics/information science, engineering, data science, applied mathematics, statistics, physics) or related fields
- Technical Skills: Proficiency in relevant programming languages (e.g., python), and AI implementation (e.g., Transformers, PyTorch, etc.) is required.

Preferred Competencies

- Prior experience in programming and working with large-scale data; expertise in machine learning is a strong plus.
- Active publication record and participation in the scientific community;
- Strong communication skills;
- Ability to work in a highly collaborative and interdisciplinary environment.
- Interest in and a history of publishing in top computer science venues is a must, and in broader science venues a plus.
- Experience implementing neural networks using Tensorflow, PyTorch, Scikit-Learn, OpenCV, deep learning, and other artificial intelligence techniques.
- Familiarity with Linux, UNIX, and High Performance Computing environment.
- Experiencing forming and testing hypotheses.

- Drive to learn new programming or data analysis techniques.
- Strong communication skills and the ability to break down complex technical problems.
- Demonstrated ability to review and prioritize work independently and effectively.
- Demonstrated ability to be resourceful and creative in problem-solving.

Working Conditions

- On campus in Chicago, IL

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We seek a diverse pool of applicants who wish to join an academic community that places the highest value on rigorous inquiry and encourages a diversity of perspectives, experiences, groups of individuals, and ideas to inform and stimulate intellectual challenge, engagement, and exchange.