

Eylon Caplan

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EDUCATION	<p>Purdue University, West Lafayette, Indiana, USA (expected) 2027 Ph.D. in Natural Language Processing, Department of Computer Science 3.8/4.0</p> <p>University of Nebraska–Lincoln, Lincoln, Nebraska, USA 2023 B.S. in Computer Science and Mathematics (Minors: Physics, Spanish) 3.99/4.0</p>
SKILLS	<p>AI, ML, NLP, LLMs, VLMs, Information Retrieval, RAG, RL, Big Data, Multiprocessing, Benchmarking</p> <p>Jupyter, Pandas, NumPy, PyTorch, Hugging Face, Transformers, LangChain, ColBERT, pyserini, BERTopic, Dask, Docker, FAISS, Flask, Git, Kubernetes, Imdeploy, SLURM, Scripting</p>
PUBLICATIONS	<p>VIBE: Can a VLM Read the Room? Tania Chakraborty, Eylon Caplan, and Dan Goldwasser Findings of EMNLP 2025 Poster, Suzhou, China on November 5–9</p> <p>Splits! A Flexible Dataset and Evaluation Framework for Sociocultural Linguistic Investigation Eylon Caplan, Tania Chakraborty, and Dan Goldwasser Under review</p> <p>CONCEPTCARVE: Dynamic Realization of Evidence Eylon Caplan and Dan Goldwasser ACL 2025 Main Conference Poster, Vienna, Austria on July 26–August 2</p>
RESEARCH EXPERIENCE	<p>Research Assistant, Purdue NLP Lab (Advisor: Dan Goldwasser) 2023–Present <i>Developing NLP frameworks to model social reasoning and human values in large-scale online communities.</i></p> <ul style="list-style-type: none">- Built CONCEPTCARVE, a framework uniting LLM reasoning with scalable retrieval, reranking, and clustering to capture abstract concepts manifesting in social communities, achieving a 26.03% relative improvement over keyword expansion.- Built an end-to-end multiprocessing, cleaning, and segmentation pipeline to create SPLITS!, a 9.7M-post dataset and evaluation framework with demographic and topical annotations: reduced manual inspection effort by 15–18x, enabling analysis of language use across social groups.- Exposed the “Visual Social-Pragmatic (VSP) Inference gap” in VLMs, where multimodal models misinterpret social visual cues, such as a sad smile. To measure this, created VIBE, a 994-instance benchmark dataset of human-annotated video clips that isolate this specific reasoning failure.
INDUSTRY EXPERIENCE	<p>Software Engineering Intern, Hudl 2022– 2023 Developed and deployed a CV pipeline using PyTorch to perform OCR on basketball scoreboards from live video. Integrated the service into production environment, with real-time overlays for live streaming on HudlTV.</p>
TEACHING AND CURRICULUM DESIGN	<p>Course Developer, Purdue University 2023– 2025</p> <ul style="list-style-type: none">- Designed a module and four-part project about the RAG pipeline for the <i>AI Forge</i> course. Project included parts teaching model inference, prompting, in-context learning, retrieval, and retrieval augmentation. Also designed an evaluation pipeline of student code on computing cluster.- Designed assignments and course content for a new course, <i>Data Structures and Algorithms for AI</i>. Created four course projects, covering topics like trees, stacks, queues, big data hashing, fuzzy word search, and graphs.
KEY COURSES	<p>Graduate Level: Advanced Topics in Reasoning with LLMs, NLP, Deep Learning, Reasoning about Programs</p>
KEY COURSE PROJECTS	<p>LLM Feedback for Proofs May 2023–Dec 2023 Tested various methods of injecting feedback from an LLM in order to generate correct symbolic proofs in the Isabelle proof solver for competition math problems. Course project for <i>Adv. Topics in Reasoning with LLMs</i>.</p> <p>Scientific Article RAG for QA Jan 2024–May 2024 Built a RAG framework using ColBERT and a generative graph language model. Compared its ability to use scientific papers to do QA tasks. Course project for <i>NLP</i>.</p> <p>Math Expression Style Transfer Aug 2024–Dec 2024 Developed an LLM BFS algorithm for converting math expressions into various simplified/expanded forms using only examples, with guaranteed equivalence. Course project for <i>Reasoning about Programs</i>.</p>
AWARDS	<p>Corporate Partners Scholarship 2023– 2024</p> <p>Purdue Science Excellence Scholarship 2023– 2024</p> <p>Regents Scholarship 2019– 2023</p>