

HAOPENG (JACK) XIE

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RESEARCH INTERESTS

- Computational Cognitive Science
- Theory of Mind & Social Reasoning
- Embodied AI & Multimodal Learning
- Natural Language Processing, Speech & LLM Agents

EDUCATION

Johns Hopkins University

Sep 2023-May 2027

Combined Bachelor's/Master's in Computer Science, Minor in Mathematics

- GPA: 3.81/4.0

PUBLICATIONS

- **Haopeng Xie**, Ismail Rasim Ulgen, Sofia Son, Berrak Sisman, and Philipp Koehn. "Is Prosody Lost in Translation? Fine-Grained Cross-Lingual Prosody Similarity Across Languages." *Findings of EMNLP 2026*.
- Chuanyang Jin, Binze Li, **Haopeng Xie**, Cathy Mengying Fang, Tianjian Li, Shayne Longpre, Hongxiang Gu, Maximillian Chen, and Tianmin Shu. "ThoughtTrace: Understanding User Thoughts in Real-World LLM Interactions." *RLxF Workshop at ICML 2026*, **Best Paper Award**; accepted at the *Pluralistic Alignment Workshop at ICML 2026*. Under review at NeurIPS 2026.

RESEARCH EXPERIENCE

Center for Language and Speech Processing (CLSP), JHU | Sep 2025 – Present

Undergraduate Researcher — Advisors: Prof. Philipp Koehn and Prof. Berrak Sisman

Prosody Analysis (2025–Present)

- Led a large-scale study of word-level prosodic correspondence across multilingual dubbed speech; built the end-to-end pipeline for speech-quality filtering, bilingual alignment, prosody extraction, statistical validation, and linguistic analysis across 300K utterance pairs.
- Led project implementation and analysis, refining the experimental design and methodology in response to advisor and reviewer feedback.
- First-author paper accepted to Findings of EMNLP 2026; preparing a follow-up paper for NAACL.

Prosody Transfer (2026–Present)

- Developing models for predicting target-language prosodic patterns from source-language speech and investigating whether source-language prosodic information provides predictive signal beyond target-language text alone.
- Designing experiments to compare word-level acoustic representations, including pitch and energy features, with higher-level representations of speaker intent, including emphasis, hesitation, and confidence.
- Evaluating word-level and sentence-level transfer architectures to determine which source-language representations generalize across language pairs.

Social Cognitive AI (SCAI) Lab, JHU | Mar 2024 – Present

Undergraduate Researcher — Advisor: Prof. Tianmin Shu

ThoughtTrace (2025–2026)

- Contributed to the development of a dataset for studying human thought processes during real-world LLM interactions; developed evaluation pipelines and conducted experiments comparing predicted thoughts with human annotations to assess how effectively user thoughts could be recovered from interaction context. Co-authored paper received Best Paper Award at RLxF at ICML 2026.

AI Reviewer (2026–Present)

- Led the development of a platform for a collaborative project studying AI-assisted scientific peer review; designed and implemented the experimental platform and integrated the AI reviewing agent.
- Collaborated across multiple labs on running simulated conference review cycles to investigate whether AI systems can collaborate with humans under shared guidelines.
- Built the infrastructure for recording AI conversations, reviewer actions, review outputs, timing logs, and experimental metadata, enabling downstream analysis of review quality and human–AI collaboration.

Multi-Agent Cooperation (2026–Present)

- Leading a research project on mental-model misalignment in decentralized LLM-agent teams, examining errors in agents’ beliefs about teammates’ knowledge, capabilities, goals, and intentions.
- Designing controlled experiments to measure how different forms and levels of misalignment affect task performance and propagate across agents over time under partial observability and limited communication.
- Developing decentralized detection and targeted-communication strategies that allow agents to identify, contain, and repair task-relevant misalignment using local observations.

HONORS & SERVICE

- **Best Paper Award**, ICML 2026 Workshop on RLxF
- **Reviewer**, ICML 2026 Workshop on Pluralistic Alignment
- **Dean’s List**, Johns Hopkins University — 6 consecutive semesters
- **Ignite Fund Recipient**, Johns Hopkins University
- **USA Computing Olympiad (USACO), Platinum Division**

INDUSTRY & TEACHING EXPERIENCE

Supio, Software Engineer Intern (Jun 2025-Aug 2025)

- Developed an ML platform for a legal AI company and trained an intent classifier to improve automated processing of lawsuit files.

Teaching Assistant, Data Structures, Johns Hopkins University (Jan 2025-Jun 2025)

- Held office hours and graded homework assignments, programming work, and examinations.