About Us

The Human Language Technology Center of Excellence (HLTCOE) was founded in 2007 to create next-generation algorithms for speech and language processing. We identify and create innovative technologies that could have **significant impact on challenging real-world problems**. Our research addresses key challenges in **extracting information from massive sources of text and speech.**

Johns Hopkins University Human Language Technology Center of Excellence. Located in the historic Stieff Silver Building adjacent to the Johns Hopkins University campus

Publications & Challenges

Our researchers strive to maintain an edge conducting pioneering research in emerging technologies with practical applications. The latest advances from our researchers are showcased in leading journals and conferences and we participate in key challenges and evaluations.

For example:

- Transactions of the Association for Computational Linguistics
- NIST Speaker Recognition Evaluation
- TReC Text Retrieval Conference
- Conference on Machine Translation
- ICASSP
- EMNLP

Partnerships

We value our strong worldwide partnerships:

Johns Hopkins Center for Language and Speech Processing
Johns Hopkins Applied Physics Laboratory
Brno University of Technology
Carnegie Mellon University
University of Maryland
University of Pennsylvania

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Our Research

SPEECH

HLTCOE speech research areas include the following:

- **Speech-to-Text Research:** Converting speech to text in a variety of languages.
- **Speaker Identification and Recognition:** Improving methods for identifying who is speaking and when.
- **Audio Characterization:** Identifying characteristics of events and situations from audio recordings.
- **Far-Field Speech:** Examining noisy and or reverberant speech in natural environments.

TEXT PROCESSING

HLTCOE text research areas include the following:

- **Machine Translation:** Designing state-of-the-art neural MT architectures.
- **Information Retrieval:** Advanced algorithms to find the most relevant information in a text collection, including cross-lingual and low resource language retrieval.
- **Natural Language Processing:** Pushing the envelope on Named Entity Recognition, Language Identification, Natural Language Understanding, Sentiment Analysis, and more.

Summer Camp For Applied Language Exploration (SCALE)

SCALE SUMMER WORKSHOPS

The highlight of the HLTCOE year is our annual summer workshop, where we tackle a hard problem in speech or language research and take a focused deep dive to make critical advances.

A wide variety of research personnel participate in the annual ten-week SCALE workshop, typically held from the first week in June through the second week in August. Each summer's workshop focuses on important topics in human language technology. Participants include researchers from academia, industry research labs as well as graduate and undergraduate students. Applications are accepted on a rolling basis from October-April based on the skills required for the SCALE problem set.

Recent SCALE topics include:

- end-to-end automatic speech recognition
- cross-lingual information retrieval.

Opportunities

We're always looking for talented personnel to join our team! We offer opportunities for summer hires in our SCALE summer workshop as well as full-time researcher hires. We welcome all inquiries.
https://hltcoe.jhu.edu/opportunities
hltcoe-hiring@jhu

MULTI-DISCIPLINARY, MULTI-LEVEL OPTIONS

The Center hires outstanding junior and senior researchers in all areas of speech and language processing and artificial intelligence, including selected undergraduate, graduate and postdoc students. Applications are accepted on a rolling basis.

PhD STUDENTS

Selected senior HLTCOE researchers advise PhD students enrolled in the Computer Science, Electrical and Computer Engineering, and the Applied Math and Statistics PhD programs at JHU. Interested students should apply directly to JHU and indicate interest in HLT studies.