Panupong (Ice) Pasupat

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EDUCATION

Stanford University — Stanford, CA
Pursuing Doctor of Philosophy in Computer Science — *current*

Massachusetts Institute of Technology — Cambridge, MA
Bachelor of Science in Electrical Engineering and Computer Science (GPA 5.0/5.0) — *2009-2013*

EXPERIENCE

Google Research, Google — Mountain View, CA
Software Engineering Intern — *2015*

- Developed deep learning models with TensorFlow for retrieving words that are paraphrases of the given definitions.
- Proposed and implemented negative sampling methods using linguistic resources to better distinguish closely related words from each other.
- Demonstrated how appropriate combinations of model choices and negative samplers improve the model accuracy.

Speech and Dialog Research Group, Microsoft Research — Mountain View, CA
Research Intern — *2014*

- Bootstrapped classifiers for detecting knowledge base relations in spoken dialog queries in an unsupervised fashion.
- Mined queries from search engine query click logs and automatically label objects of relations using distant supervision from knowledge graphs.
- Inferred query patterns corresponding to each relation using the automatic labels and the nature of query click logs.

Natural Language Processing Laboratory, Tokyo Institute of Technology — Yokohama, Japan
Exchange Student — *2013*

- Experimented on Tweet sentiment analysis using different classifiers and features.
- Applied structural correspondent learning to incorporate unlabeled data to the classifier.

Spoken Language Systems Group, MIT Computer Science & Artificial Intelligence Lab — Cambridge, MA
Researcher, Intern — *2012*

- Designed web interfaces on Amazon Mechanical Turk to collect spoken sentences and their semantic labeling.
- Trained sequence tagging models by implementing features for conditional random fields, resulting in English and Chinese models for categorizing words in speech queries.
- Tested the models via speech-enabled mobile applications for movie, flight, and restaurant recommendation.

Language of Thought, MIT Department of Linguistics — Cambridge, MA
Researcher, Intern — *2010*

- Designed algorithms to automatically measure formant frequencies of vowels from sound files in order to observe the patterns and constraints of vowels in spoken languages.
- Designed online experiments on Amazon Mechanical Turk to study the constraints on language acquisition.

SELECTED PUBLICATIONS

- E. Liu, K. Guu, P. Pasupat, T. Shi, P. Liang. "Reinforcement Learning on Web Interfaces using Workflow-Guided Exploration." *International Conference on Learning Representations (ICLR)*, 2018.
- Y. Zhang, P. Pasupat, P. Liang. "Macro Grammars and Holistic Triggering for Efficient Semantic Parsing." *Empirical Methods on Natural Language Processing (EMNLP)*, 2017.
- K. Guu, P. Pasupat, E. Liu, P. Liang. "From Language to Programs: Bridging Reinforcement Learning and Maximum Marginal Likelihood." *Association for Computational Linguistics (ACL)*, 2017.
- P. Pasupat, P. Liang. "Inferring Logical Forms From Denotations." *Association for Computational Linguistics (ACL)*, 2016.
- P. Pasupat, P. Liang. "Compositional Semantic Parsing on Semi-Structured Tables." *Association for Computational Linguistics (ACL)*, 2015.
- P. Pasupat, D. Hakkani-Tür. "Unsupervised Relation Detection Using Automatic Alignment of Query Patterns Extracted from Knowledge Graphs and Query Click Logs." *Interspeech*, 2015.
- P. Pasupat, P. Liang. "Zero-shot entity extraction from web pages." *Association for Computational Linguistics (ACL)*, 2014.

SKILLS

- **Computer Languages:** Python, Java, JavaScript
- **Languages:** Thai (native speaker), English (fluent), Japanese (intermediate), Chinese (beginner)