Panupong (Ice) Pasupat

720 Serra St., Apt 216, Stanford CA 94305
ppasupat@cs.stanford.edu | (+1) 857-919-5187
https://ppasupat.github.io

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.

SELECTED PUBLICATIONS

Reinforcement Learning on Web Interfaces using Workflow-Guided Exploration — ICLR 2018
E. Liu, K. Guu*, P. Pasupat*, T. Shi, P. Liang (*equal contribution)*

- Designed and implemented a novel exploration algorithm for reinforcement learning agents, which reduces the amount of expert demonstrations needed by 100x.
- Improved and open-sourced the MiniWoB++ Web interface interaction benchmark for reinforcement learning.

Compositional Semantic Parsing on Semi-Structured Tables — ACL 2015
P. Pasupat, P. Liang

Inferring Logical Forms From Denotations — ACL 2016
P. Pasupat, P. Liang

Macro Grammars and Holistic Triggering for Efficient Semantic Parsing — EMNLP 2017
Y. Zhang, P. Pasupat, P. Liang

- The three publications above propose machine learning models for answering complex natural language questions based on the information in a given Web table.
- Designed and implemented novel algorithms to flexibly handle lexical and syntactic mismatches, filter misleading solutions that sometimes give correct answers, and reuse parts of good solutions to speed up the model.

AWARDS

- **International Olympiad in Informatics (IOI):** Gold Medal (2008)
- **International Mathematical Olympiad (IMO):** Gold Medal (2007), 2 Silver Medals (2006, 2005)

SKILLS

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