EDWARD HU

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EDUCATION

Johns Hopkins University, Baltimore, MD — Class of 2019
Bachelor of Science in Computer Science, Cognitive Science
- Cumulative GPA: 3.96/4.00
- Member of Upsilon Pi Epsilon, Omega Psi
- Departmental Honors in Comp. Sci., Cog. Sci.
- Advised by Prof Benjamin Van Durme

RESEARCH EXPERIENCE

Microsoft Research AI, — Sept 2019 – Present
Microsoft Corporation, Redmond, WA
AI Resident
- Work with Deep Learning and Reinforcement Learning team on improving adversarial and perceptual robustness
- Improve the certification runtime of a strong certifiably robust baseline by 20 times with low impact on certified radius *(work in progress)*

Center for Language and Speech Processing, — Jan 2018 – Aug 2019
Johns Hopkins University, Baltimore, MD
Research Assistant
- Conducted research in monolingual paraphrastic bitext generation, monolingual rewriting, and external applications like data augmentation and plagiarism detection
- Built the a large paraphrase dataset with more than 4 billion generated tokens
- Developed an lexically-constrained decoding algorithm that is 5 times more efficient while being more accurate than prior approach
- Implemented AWS Sockeye features including improved lexically-constrained decoding and decoding by sampling
- Recasted over 1,700 text-hypothesis pairs using VerbNet lexicon to gain insights into natural language inference models

PUBLICATIONS

- **Large-scale, Diverse, Paraphrastic Bitexts via Sampling and Clustering** — CoNLL 2019
  J. Edward Hu, A. Singh, N. Holzenberger, M. Post, B. Van Durme
- **Improved Lexically-Constrained Decoding for Translation and Monolingual Rewriting** — NAACL 2019
  J. Edward Hu, H. Khayrallah, R. Culkin, P. Xia, T. Chen, M. Post, B. Van Durme
- **ParaBank: Monolingual Bitext Generation and Sentential Paraphrasing via Lexically-constrained Neural Machine Translation** — AAAI 2019
  J. Edward Hu, Rachel Rudinger, Matt Post, Benjamin Van Durme
- **Towards a Unified Natural Language Inference Framework to Evaluate Sentence Representations** — EMNLP 2018
  A. Poliak, A. Haldar, R. Rudinger, *J. Edward Hu*, E. Pavlick, A. S. White, B. Van Durme

SKILLS

- Programming: Python, C, C++, Java, Matlab
- Collaborative research: Linux/Unix, Cluster, MTurk, Git, LaTeX
- Toolkits: PyTorch, AWS Sockeye, spaCy, NLTK, Stanford CoreNLP, OpenAI Gym

Updated on 12/2/2019