YUSHI HU

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EDUCATION

University of Washington Seattle, WA
Ph.D. in Electrical & Computer Engineering 2021 – Present
Advisors: Mari Ostendorf, Noah A. Smith
Research interests: Natural Language Processing, Computer Vision

University of Chicago Chicago, IL
B.S. in Computer Science, Mathematics, B.A. in Economics 2017 – 2021
summa cum laude, Phi Beta Kappa

PREPRINT & PUBLICATIONS

1. **Yushi Hu,** Benlin Liu, Jungo Kasai, Yizhong Wang, Mari Ostendorf, Ranjay Krishna, Noah A. Smith. TIFA: Accurate and Interpretable Text-to-Image Faithfulness Evaluation with Question Answering. *Preprint 2023*.

2. H. Su*, W. Shi*, J. Kasai, Y. Wang, **Y. Hu**, M. Ostendorf, W. Yih, N. Smith, L. Zettlemoyer, T. Yu. One Embedder, Any Task: Instruction-Finetuned Text Embeddings. *Preprint 2022*.

3. **Yushi Hu***, Hang Hua*, Zhengyuan Yang, Weijia Shi, Noah A Smith, Jiebo Luo. 2022. PromptCap: Prompt-Guided Image Captioning for VQA with GPT-3. *Preprint 2022*.

4. Z. Cheng*, T. Xie*, P. Shi, C. Li, R. Nadkarni, **Y. Hu**, C. Xiong, D. Radev, M. Ostendorf, L. Zettlemoyer, N. Smith, T. Yu. 2022. Binding Language Models in Symbolic Languages. *ICLR 2023 (spotlight)*.

5. Bo-Ru Lu, **Yushi Hu,** Hao Cheng, Noah A. Smith, Mari Ostendorf. 2022. Unsupervised Learning of Hierarchical Conversation Structure. *Findings of EMNLP 2022*.

6. **Yushi Hu,** Chia-Hsuan Lee, Tianbao Xie, Tao Yu, Noah A. Smith, Mari Ostendorf. 2022. In-Context Learning for Dialogue State Tracking. *Findings of EMNLP 2022*.

7. **Yushi Hu,** Shane Settle, and Karen Livescu. 2021. Acoustic Span Embeddings for Multilingual Query-by-Example Search. *IEEE Spoken Language Technology Workshop (SLT 2021)*.

8. **Yushi Hu,** Shane Settle, and Karen Livescu. 2020. Multilingual Jointly Trained Acoustic and Written Word Embeddings. *Proc. of Interspeech 2020*.

9. S. R. Bakaul, S. Prokhorenko, Q. Zhang, Y. Nahas, **Y. Hu**, A. K. Petford-Long, L. Bellaiche, N. Valanoor. 2021. Freestanding Ferroelectric Bubble Domains. *Advanced Materials*.

10. **Yushi Hu,** Tianye Wang, Yefeng Mei, Zhao Zhang and Chuangang Ning. 2016. A simple setup to measure muon lifetime and electron energy spectrum of muon decay and its Monte Carlo simulation.物理与工程, *2016.05*

RESEARCH EXPERIENCE

University of Washington Seattle, WA
Graduate Research Assistant, UW NLP group Sep 2021 – Present
Advisor: Prof. Mari Ostendorf, Prof. Noah A. Smith

Toyota Technological Institute at Chicago Chicago, IL
Research Assistant, Speech and Language group Sep 2019 – Present
Advisor: Prof. Karen Livescu

Argonne National Laboratory Lemont, IL
Research Intern, Materials Science Division July 2018 – Aug 2018
Advisor: Dr. Saidur R. Bakaul

INDUSTRY EXPERIENCE

Tencent AI Lab (Seattle) Bellevue, WA
Research Intern Jun 2022 – Sep 2022
- Style-controllable text-to-speech synthesis. Self-supervised learning of prosody.

Learnable.ai Boston, MA
Machine Learning Engineer Intern Jun 2019 – Sep 2019

- Devised and implemented a new method for de-warping cell-shot document images based on single-view 3D-reconstruction and conformal mapping. Improved OCR performance in products.
- Designed and implemented models to automatically grade students' answers (in LaTeX). Devised a BERT-based system and a rule-based pattern matching system. Achieved 80% accuracy on real data. Proposed a semantic parsing-based system to further improve the performance.

AWARDS & HONORS

University of Washington Top Scholar Recruitment Award	2021
University of Washington ECE PhD Fellowship	2021
summa cum laude, University of Chicago	2021
Gary Becker Scholar, University of Chicago	2020-2021
ACM-ICPC Mid-Central Regional Finalist	2019
1st Prize, 33rd Chinese Physics Olympiad	2016
2nd Place, China Team Captain, 29th International Young Physicists' Tournament	2016

SKILLS

Programming Languages (proficient): Python, C/C++, MATLAB, bash
Programming Languages (capable): Java, JavaScript, Node.js
Frameworks and tools: PyTorch, TensorFlow, HuggingFace, OpenCV, NLTK, Spark
Database Management: SQL, Pandas
Natural Languages: Mandarin (native), English (fluent)