Zhengxuan (Zen) Wu
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Education

Stanford University *2022 - 2027*
Incoming Ph.D. in Computer Science
Focus: Natural Language Processing

Stanford University *2020 - 2022*
M.S. in Symbolic Systems Program

University of Pennsylvania *2015 - 2017*
M.S. in Computer Science

Case Western Research University *2012 - 2015*
B.S. in Aerospace Engineering

Professional Experience

VMware, Inc. - Senior Software Engineer *2017 - 2021*

· Developed scalable data-center management platform.

Swift Capital (Paypal, Inc.) - Machine Learning Intern *2016 - 2016*

· Developed machine learning systems to predict the credit scores of loan applicants.

Manuscripts and Publications[1]

1. Tailin Wu, Megan Tjandrasuwita, Zhengxuan Wu, Xuelin Yang, Kevin Liu, Rok Sosic, Jure Leskovec, "ZeroC: A Neuro-Symbolic Model for Zero-shot Concept Recognition and Acquisition at Inference Time", M.s., Stanford University, https://arxiv.org/abs/2206.15049.
2. Eldar David Abraham*, Karel D'Oosterlinck*, Amir Feder*, Yair Ori Gat*, Atticus Geiger*, Christopher Potts*, Roi Reichart*, Zhengxuan Wu*, "CEBaB: Estimating the Causal Effects of Real-World Concepts on NLP Model Behavior", M.s., Stanford University, Technion – Israel Institute of Technology, and Ghent University, https://arxiv.org/abs/2205.14140.
3. Zhengxuan Wu*, Isabel Papadimitriou*, Alex Tamkin*, "Oolong: Investigating What Makes Crosslingual Transfer Hard with Controlled Studies", M.s., Stanford University, https://arxiv.org/abs/2202.12312.
4. Zhengxuan Wu, Desmond C. Ong, "On Explaining Your Explanations of BERT: An Empirical Study with Sequence Classification", M.s., Stanford University and National University of Singapore, https://arxiv.org/abs/2101.00196.
5. Zhengxuan Wu*, Atticus Geiger*, Josh Rozner, Elisa Kreiss, Hanson Lu, Thomas Icard, Christopher Potts, Noah D. Goodman, "Causal Distillation for Language Models", (NAACL22), https://arxiv.org/abs/2112.02505.
6. Atticus Geiger*, Zhengxuan Wu*, Hanson Lu*, Josh Rozner, Elisa Kreiss, Thomas Icard, Noah D. Goodman, Christopher Potts, "Inducing Causal Structure for Interpretable Neural Networks", (ICML22), https://arxiv.org/abs/2112.00826.
7. Zhengxuan Wu, Nelson F. Liu, Christopher Potts, "Identifying the Limits of Cross-Domain Knowledge Transfer for Pretrained Models", (RepL4NLP@ACL22), https://arxiv.org/abs/2104.08410.
8. Zhengxuan Wu*, Elisa Kreiss*, Desmond C. Ong, Christopher Potts, "ReaSCAN: Compositional Reasoning in Language Grounding', (NeurIPS21), https://arxiv.org/abs/2109.08994.
9. Christopher Potts*, Zhengxuan Wu*, Atticus Geiger, Douwe Kiela, "DynaSent: A Dynamic Benchmark for Sentiment Analysis", (ACL21), https://arxiv.org/abs/2012.15349.
10. Zhengxuan Wu, Desmond C. Ong, "Context-Guided BERT for Targeted Aspect-Based Sentiment Analysis", (AAAI21), https://arxiv.org/abs/2010.07523.
11. Zhengxuan Wu, Desmond C. Ong, "Pragmatically Informative Color Generation by Grounding Contextual Modifiers", (SCiL21), https://arxiv.org/abs/2010.04372.

[1] *equal contribution

12. Zhengxuan Wu, Thanh-Son Nguyen and Desmond C. Ong, "Structured Self-Attention Weights Encode Semantics in Sentiment Analysis", (BlackboxNLP@EMNLP20), https://arxiv.org/abs/2010.04922.
13. Zhengxuan Wu, Xiyu Zhang, Zhi-Xuan Tan, Jamil Zaki, Desmond C. Ong, "Attending to Emotional Narratives" (IEEE ACII19), https://arxiv.org/abs/1907.04197.
14. Douwe Kiela, Max Bartolo, Yixin Nie, Divyansh Kaushik, Atticus Geiger, Zhengxuan Wu, Bertie Vidgen, Grusha Prasad, Amanpreet Singh, Zhiyi Ma, Tristan Thrush, Sebastian Riedel, Zeerak Waseem, Pontus Stenetorp, Robin Jia, Mohit Bansal, Christopher Potts and Adina Williams, "Dynabench: Rethinking Benchmarking in NLP", (NAACL21), https://arxiv.org/abs/2104.14337.
15. Geza Kovacs, Zhengxuan Wu and Michael S. Bernstein, "Not Now, Ask Later: Users Weaken Their Behavior Change Regimen Over Time, But Believe They Will Imminently Re-Strengthen It", (CHI21), https://arxiv.org/abs/2101.11743..
16. Desmond C. Ong, Zhengxuan Wu, Zhi-Xuan Tan, Marianne Reddan, Isabella Kahhale, Alison Mattek and Jamil Zaki, "Modeling emotion in complex stories: the Stanford Emotional Narratives Dataset", (IEEE TAC19), https://arxiv.org/abs/1912.05008.
17. Geza Kovacs, Drew Mylander Gregory, Zilin Ma, Zhengxuan Wu, Golrokh Emami, Jacob Ray and Michael S. Bernstein, "Conservation of Procrastination: Do Productivity Interventions Save Time or Just Redistribute It?", (CHI19), https://dl.acm.org/doi/10.1145/3290605.3300560.
18. Geza Kovacs, Zhengxuan Wu and Michael S. Bernstein, "Rotating Online Behavior Change Interventions Increases Effectiveness But Also Increases Attrition", (CSCW18), https://dl.acm.org/doi/10.1145/3274364.
19. Erik J. Stalcup, James S. T'ien, Jonathan Jordan, Zhengxuan Wu, Gabriel Nastac and Chengyao Li, "Upward Flame Spread and Extinction over Wavy Solids", (CST20), https://www.tandfonline.com/doi/abs/10.1080/00102202.2020.1738411.

Academic Experience

- Reviewer for CHI19, *ACL22, ICML22, NeurIPS22
- Invited Abstract Presentation in IC2S2 2019, University of Amsterdam, Netherlands

Technical Strengths

- **Program Languages**: Python, C++/C, C#, Java, R, Matlab, Haskell, Bash.
- **Machine Learning**: Discriminative and Generative Models (CNN/RNN/LSTM/VAE/GAN/HMM on CUDA); Reinforcement Learning; Multi-task Learning; Graph Neural Networks.
- **AI + Big Data**: PyTorch, scikit-learn, Keras, TensorFlow, NumPy, Pandas, H2O, MapReduce (Hadoop).
- **Data Mining**: PyData, SciPy, SNAP, SQL, NoSQL (Mongo), NetworkX, Jupyter.
- **Data Science**: Mixed Linear Model, Hierarchical Logistic Regression, A/B Testings, Crowdsourcing (MTurk).
- **Server + Database**: Node.js, Flask, MongoDB, PostgreSQL, Kubernetes, Docker, Google Cloud, AWS EC2, Heroku, Azure, Jenkins CICD.
- **Web + Mobile**: HTML/CSS/JS, Polymer, React, Webpack, Apache, Android (Java), Xcode.