

# XIAOCHUANG HAN (Han)

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## EDUCATION

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- University of Washington** September 2021 - Present (Exp. 2025)  
Ph.D. in Computer Science and Engineering  
Advisor: Yulia Tsvetkov
- Carnegie Mellon University** August 2019 - August 2021  
M.S. in Language Technologies  
Advisor: Yulia Tsvetkov
- Georgia Institute of Technology** August 2015 - May 2019  
B.S. in Computer Science, Minor in Mathematics  
Advisor: Jacob Eisenstein

## PUBLICATIONS

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*SSD-LM: Semi-autoregressive Simplex-based Diffusion Language Model for Text Generation and Modular Control*

**Xiaochuang Han**, Sachin Kumar, Yulia Tsvetkov  
*ACL 2023*

*Understanding In-Context Learning via Supportive Pretraining Data*

**Xiaochuang Han**, Daniel Simig, Todor Mihaylov, Yulia Tsvetkov, Asli Celikyilmaz, Tianlu Wang  
*ACL 2023*

*ORCA: Interpreting Prompted Language Models via Locating Supporting Evidence in the Ocean of Pretraining Data*

**Xiaochuang Han** and Yulia Tsvetkov  
*Under Review*

*Toward Human Readable Prompt Tuning: Kubrick's The Shining is a good movie, and a good prompt too?*

Weijia Shi\*, **Xiaochuang Han\***, Hila Gonen, Ari Holtzman, Yulia Tsvetkov, Luke Zettlemoyer  
*Under Review*

*Influence Tuning: Demoting Spurious Correlations via Instance Attribution and Instance-Driven Updates*

**Xiaochuang Han** and Yulia Tsvetkov  
*Findings of EMNLP 2021*

*Fortifying Toxic Speech Detectors Against Veiled Toxicity*

**Xiaochuang Han** and Yulia Tsvetkov  
*EMNLP 2020*

*Explaining Black Box Predictions and Unveiling Data Artifacts through Influence Functions*

**Xiaochuang Han**, Byron C. Wallace, Yulia Tsvetkov  
*ACL 2020*

*Unsupervised Domain Adaptation of Contextualized Embeddings for Sequence Labeling*  
**Xiaochuang Han** and Jacob Eisenstein  
*EMNLP 2019*

*No Permanent Friends or Enemies: Tracking Dynamic Relationships between Nations from News*  
**Xiaochuang Han**, Eunsol Choi, Chenhao Tan  
*NAACL 2019*

*Mind Your POV: Convergence of Articles and Editors Towards Wikipedia's Neutrality Norm*  
Umashanthi Pavalanathan, **Xiaochuang Han**, Jacob Eisenstein  
*CSCW 2018*

*Interactional Stancetaking in Online Forums*  
Scott Kiesling, Umashanthi Pavalanathan, Jim Fitzpatrick, **Xiaochuang Han**, Jacob Eisenstein  
*Computational Linguistics, September 2018*

## RESEARCH EXPERIENCE

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**Meta AI, FAIR Labs** October 2022 - Present  
*Visiting Researcher*, with Marjan Ghazvininejad

- Explore the scaling and fusion of diffusion-based language models.

**UW NLP / CMU LTI TsvetShop** August 2019 - Present  
*Graduate Research Assistant*, with Yulia Tsvetkov

- Develop a performant diffusion language model based on vocabulary simplexes for modular control.
- Interpret prompted language models by finding evidence in the pretraining data.
- Demote spurious correlations in models by instance attribution and instance-driven updates.
- Fortify toxic language classifiers against veiled toxicity using interpretable ML methods.
- Explore the interpretability of NLP models through the lens of training examples.

**Meta AI, FAIR Labs** June 2022 - September 2022  
*Research Intern*, with Tianlu Wang

- Interpreted mechanisms of in-context learning by extracting data evidence from the pretraining data.

**Georgia Tech Computational Linguistics Lab** August 2017 - May 2019  
*Undergraduate Research Assistant*, with Jacob Eisenstein

- Improved unsupervised domain adaptation of contextualized embeddings for sequence labeling.
- Explored variational methods for geo-entity resolution.
- Analyzed the effect of Wikipedia's neutrality norm.
- Worked on stance classifiers in a quantitative model of stancetaking in online forums.

**University of Colorado Boulder NLP and CSS Lab** May 2018 - August 2018  
*Research Intern*, with Chenhao Tan

- Built an unsupervised model to explore entity-to-entity relations in world news.

## TEACHING ASSISTANTSHIPS

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**UW CSE 447 / M 547: Natural Language Processing**

Spring 2022

*Head Teaching Assistant*, with Yulia Tsvetkov

- Adapted and redesigned homework assignments, gave tutorials on structured prediction methods, designed quiz questions and hosted weekly office hours.

**CMU 11-711: Algorithms for NLP**

Fall 2020

*Graduate Teaching Assistant*, with Emma Strubell, Yulia Tsvetkov, and Robert Frederking

- Adapted and redesigned homework assignments, gave a lecture on natural language inference and interpretability in neural NLP, led recitations and hosted office hours.

**ACADEMIC SERVICE**

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**Reviewer** (\*outstanding reviewer)

- ACL 2023, EMNLP 2022, NeurIPS 2022, ICLR 2022, DistShift 2022, ACL 2021\*, ARR 2021, NAACL 2021, EACL 2021\*, CSUR 2021, EMNLP 2020, W-NUT 2020

**STUDENT ORGANIZATIONS**

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**Georgia Tech Big Data Club**

August 2015 - May 2019

*President and Lecturer*

- Organized weekly meetings and gave lectures on machine learning and database tools and algorithms.