Nelson F. Liu

Contact Information

nfliu@cs.stanford.edu
www.cs.stanford.edu/~nfliu

Education

Stanford University, Stanford, California — 2019 - Present
Ph.D. Student, Computer Science Department

University of Washington, Seattle, Washington — 2015 - 2019
B.S. with Distinction in Computer Science, B.A. in Linguistics
Advisor: Noah A. Smith
Thesis: *Implicit Linguistic Knowledge of Neural Natural Language Processing Models*

The Center for Brains, Minds and Machines, Cambridge, Massachusetts — August 2019
Brains, Minds and Machines Summer Course

Research and Industry Experience

University of Washington, Computer Science and Engineering — 2015 - 2019
Research Assistant, with Noah A. Smith

Allen Institute for Artificial Intelligence (AI2) — 2018 - 2019
Research Intern, with Matt Gardner and Noah A. Smith

USC Information Sciences Institute, Natural Language Group — Summer 2017
Research Intern, with Kevin Knight and Jonathan May

Allen Institute for Artificial Intelligence (AI2) — Winter 2017
Research Intern, with Matt Gardner

scikit-learn — Summer 2016
Google Summer of Code Developer

Fellowships, Awards & Honors

NSF Graduate Research Fellowship (Natural Language Processing), 2019
Outstanding Undergraduate Honors Thesis Award, University of Washington CSE, 2019
Outstanding Computer Science Senior Award, University of Washington CSE, 2019
Finalist, CRA Outstanding Undergraduate Researcher Award, 2019
Best Paper Award, ACL 2018 Workshop on Representation Learning for NLP (RepL4NLP 2018) [5]
Barry M. Goldwater Scholarship, 2018
Washington Research Foundation Fellowship, 2018
Phi Beta Kappa, 2017
Washington Research Foundation Fellowship, 2017
UW HPCC Cloud Credit Grant Award, 2017
Mary Gates Research Scholarship, 2016
SciPy Scholarship, 2016

Refereed Publications

[1] *Quoref: A Reading Comprehension Dataset with Questions Requiring Coreferential Reasoning*
Pradeep Dasigi, **Nelson F. Liu**, Ana Marasović, Noah A. Smith and Matt Gardner.
Conference on Empirical Methods in Natural Language Processing & International Joint Conference on Natural Language Processing (EMNLP-IJCNLP), 2019.

[2] *Barack's Wife Hillary: Using Knowledge Graphs for Fact-Aware Language Modeling*
Robert L. Logan IV, **Nelson F. Liu**, Matthew E. Peters, Matt Gardner and Sameer Singh.
Annual Meeting of the Association for Computational Linguistics (ACL), 2019.

[3] *Linguistic Knowledge and Transferability of Contextual Representations*
Nelson F. Liu, Matt Gardner, Yonatan Belinkov, Matthew E. Peters, and Noah A. Smith.
North American Chapter of the Association for Computational Linguistics (NAACL), 2019.

[4] *Inoculation by Fine-Tuning: A Method for Analyzing Challenge Datasets*
Nelson F. Liu, Roy Schwartz, and Noah A. Smith.
North American Chapter of the Association for Computational Linguistics (NAACL), 2019.

[5] *LSTMs Exploit Linguistic Attributes of Data*
Nelson F. Liu, Omer Levy, Roy Schwartz, Chenhao Tan and Noah A. Smith.
ACL Workshop on Representation Learning for NLP (RepL4NLP), 2018.
Best Paper Award.

[6] *AllenNLP: A Deep Semantic Natural Language Processing Platform*
Matt Gardner, Joel Grus, Mark Neumann, Oyvind Tafjord, Pradeep Dasigi, **Nelson F. Liu**, Matthew Peters, Michael Schmitz, and Luke Zettlemoyer.
ACL Workshop for Natural Language Processing Open Source Software (NLP-OSS), 2018.

[7] *Discovering Phonesthemes with Sparse Regularization*
Nelson F. Liu, Gina-Anne Levow, and Noah A. Smith.
NAACL Workshop on Subword and Character Level Models in NLP (SCLeM), 2018.

[8] *Crowdsourcing Multiple Choice Science Questions*
Johannes Welbl, **Nelson F. Liu**, and Matt Gardner.
EMNLP Workshop on Noisy User-generated Text (W-NUT), 2017.

Unpublished Manuscripts

[9] *Augmenting Statistical Machine Translation with Subword Translation of Out-of-Vocabulary Words*
Nelson F. Liu, Jonathan May, Michael Pust, and Kevin Knight.
arXiv:1808.05700. August 2018.

Teaching Assistantships

CSE447: Natural Language Processing, University of Washington Winter 2019
Assisting with course planning and development, leading a weekly discussion section, and holding weekly office hours. Developing new teaching material based on AllenNLP.
- Instructor: Professor Noah A. Smith

CSE190B: CSE Direct Admit Seminar, University of Washington Autumn 2018
Organizing and leading a seminar for first-year computer science students interested in getting involved in undergraduate research and pursuing research-based careers.

CSE481N: Natural Language Processing Capstone, University of Washington Spring 2018
Advised teams of senior undergraduates and masters students on the design and implementation of original NLP projects.
- Instructor: Professor Yejin Choi

CSE447: Natural Language Processing, University of Washington Winter 2018
Assisted with course planning and development, led a weekly discussion section, and held weekly office hours. Developed and administered a new PyTorch-based SQuAD reading comprehension project assignment.
- Instructor: Professor Yejin Choi

Professional Service

Workshop Organization:
- EMNLP 2020 Workshop for Natural Language Processing Open Source Software

Program Committee Member:
- Annual Meeting of the Association for Computational Linguistics (ACL): 2019, 2020
- Conference on Empirical Methods in Natural Language Processing (EMNLP): 2019
- International Conference on Computational Linguistics (COLING): 2020
- AAAI Conference on Artificial Intelligence (AAAI): 2020
- International Conference on Machine Learning (ICML): 2020
- Conference on Computational Natural Language Learning (CoNLL): 2019
- Workshop on Analyzing and Interpreting Neural Networks for NLP (BlackboxNLP): 2018, 2019
- ACL Student Research Workshop: 2019
- Workshop on Methods for Optimizing and Evaluating Neural Language Generation: 2019

Student Volunteer:
- Conference on Empirical Methods in Natural Language Processing (EMNLP): 2019

Departmental Service

Stanford AI Lab Undergraduate Mentor, Stanford University, 2019
Stanford AI Lab Blog Editor, Stanford University, 2019