



EDUCATION

University of Edinburgh <i>Ph.D. Informatics</i> Supervisors: Adam Lopez and Tim Hospedales Thesis: Training Dynamics of Neural Language Models.	2021
Johns Hopkins University <i>MSE Computer Science</i>	2015
Carnegie Mellon University <i>B.Sc Computer Science with Language Technologies minor</i>	2013
The Recurse Center <i>Sabbatical: Recurser</i> Experimental unstructured educational programming retreat.	Spring 2017

PUBLICATIONS

CONFERENCE

- Sellam, Thibault, Steve Yadlowsky, Ian Tenney, Jason Wei, Naomi Saphra, Alexander D'Amour, Tal Linzen, Jasmijn Bastings, Iulia Raluca Turc, Jacob Eisenstein, Dipanjan Das, and Ellie Pavlick (2022). "The MultiBERTs: BERT Reproductions for Robustness Analysis". In: *ICLR*.
- White, Jennifer C., Tiago Pimentel, Naomi Saphra, Adina Williams, and Ryan Cotterell (2021). "A Non-Linear Structural Probe". In: *NAACL*.
- Pimentel, Tiago, Naomi Saphra (equal contribution), Adina Williams, and Ryan Cotterell (2020). "Pareto Probing: Trading Off Accuracy for Complexity". In: *EMNLP*.
- Saphra, Naomi and Adam Lopez (2020). "LSTMs Compose—and Learn—Bottom-Up". In: *Findings of EMNLP*.
- Tahaei, Mohammad, Kami Vaniea, and Naomi Saphra (2020). "Understanding Privacy-Related Questions on Stack Overflow". In: *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*.
- Saphra, Naomi and Adam Lopez (2019). "Understanding Learning Dynamics Of Language Models with SVCCA". In: *NAACL*.
- Saphra, Naomi and Adam Lopez (2015). "AMRICA: an AMR Inspector for Cross-language Alignments". In: *NAACL*.
- Vedaldi, Andrea et al. (2014). "Understanding Objects in Detail with Fine-grained Attributes." In: *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*.

WORKSHOP

- Saphra, Naomi and Adam Lopez (2019). "Sparsity Emerges Naturally in Neural Language Models". In: *ICML Workshop on Identifying and Understanding Deep Learning Phenomena*.
- Saphra, Naomi and Adam Lopez (2016). "Evaluating Informal-Domain Word Representations With UrbanDictionary". In: *ACL Workshop on Evaluating Vector Space Representations for NLP*.
- Saphra, Naomi and Raman Arora (2015). "Domain Adaptation for Word Embeddings With Matrix Factorization". In: *Women in Machine Learning Workshop at NIPS*.
- Cotterell, Ryan, Adithya Renduchintala, Naomi Saphra, and Chris Callison-Burch (2014). "An Algerian Arabic-French Code-Switched Corpus". In: *LREC Workshop on Free/Open-Source Arabic Corpora*.
- Schneider, Nathan, Brendan O'Connor, Naomi Saphra, David Bamman, Manaal Faruqui, Noah A. Smith, Chris Dyer, and Jason Baldridge (2014). "A framework for (under) specifying dependency syntax without overloading annotators". In: *ACL Linguistic Annotation Workshop*.
- Saphra, Naomi and Matthew Blaschko (2012). "Automatic verification of boundary annotations from mechanical turk". In: *Women in Machine Learning Workshop at NIPS*.

AWARDS

ICLR Outstanding Reviewer: 2021, 2022.

NY Academy of Sciences - Natural Language, Dialogue, and Speech 2019: Best Poster Runner Up.

Daniella Sciama Award for Achievement through Adversity 2019.

Google Europe Scholarship for Students with Disabilities 2017.

Carnegie Mellon School of Computer Science Dragon Award 2013.

National Merit Semifinalist 2009.

Nannina Rasulo Memorial Scholarship Award for Technology 2009.

SUPERVISION

Sylke Gosen, University of Amsterdam MSc. 2021

Understanding Language Models through Perturbed Datasets.

Alp Ozkan, University of Edinburgh MSc. 2018

Combined Application of Pruning and Growing Approaches for Neural Networks.

Yekun Chai, University of Edinburgh MSc. 2018

Discovering Spelling Variants on Urban Dictionary.

TEACHING

NYU

2021

Project Supervisor

Center for Data Science Capstone

University of Edinburgh

2016-2019

Tutor (Teaching sections)

Informatics Research Review (2016)

Probabilistic Modeling & Reasoning (2019)

Machine Learning & Pattern Recognition (2017, 2018, 2019)

Johns Hopkins University

2013

Course Assistant (Grading)

Natural Language Processing

Irvington High School

2008-2009

Teacher's Assistant (Grading)

Ancient Greek

TALKS

INVITED EVENT TALKS

Sources of Variance in Pretraining and Finetuning (Keynote)

June 2022

3rd Neural Scaling Laws Workshop

Manoir Saint-Sauveur, Quebec

Mathematical Fundamentals of AI

January 2022

NYU AI School

New York, NY (Remote)

Transparent, Hackable, Accessible

November 2020

QueerInAI EMNLP Social

Seattle, WA (Remote)

Accessible Means Hackable (Keynote)

June 2020

Pydatafest Amsterdam

Amsterdam, Netherlands (Remote)

Blackbox NLP Panel Discussion

August 2019

ACL Blackbox NLP Workshop

Florence, Italy

OUTREACH

Get Hooked on Pytorch Hooks! <i>!!Con West</i> Santa Cruz, CA	March 2020
Carbon AI and the Concentration of Computational Work <i>Challenging the Work Society</i> London, UK	September 2019
Paying the Panopticon (standup comedy) <i>The Stand Edinburgh Comedy Club</i> Edinburgh, UK	Feb 26, 2019
ML and NLP Guest Lectures <i>Carnegie Mellon TechNights (program for middle school girls)</i> Pittsburgh, PA	2012

OTHER INVITED TALKS

Oracle <i>Boston, MA</i>	July 2022
Stanford University <i>Palo Alto, CA (Remote)</i>	June 2022
UC Irvine <i>Irvine, CA</i>	June 2022
University of Southern California - Information Sciences Institute <i>Irvine, CA</i>	June 2022
Neural Sequence Models Theory Discord <i>Remote</i>	March 2022
University College London <i>London, UK</i>	February 2022
UC Berkeley <i>Berkeley, CA (Remote)</i>	November 2020
NLP With Friends <i>Remote</i>	October 2020
New York University <i>New York, New York (Remote)</i>	June 2020
Brown University <i>Providence, RI (Remote)</i>	May 2020
Element AI <i>London, UK</i>	September 2019
Allen Institute for AI <i>Seattle, WA</i>	August 2019
City University of New York <i>New York, New York</i>	May 2019
University of Amsterdam <i>Amsterdam, Netherlands</i>	January 2019

WORK EXPERIENCE

NYU <i>Postdoctoral Researcher</i> Supervisor: Kyunghyun Cho	2021-Present
Mosaic ML <i>Consultant</i> Advise on making NLP models more efficient.	2022-Present
Google <i>Research Intern</i> Supervisors: Dipanjan Das, Ian Tenney, Jasmijn Bastings, Thibault Sellam. Better understanding of how BERT learns.	Winter 2020
Koko	Summer 2017

Contractor

Developed neural classifiers for informal text at NYC startup.

Google

Summer 2015

Software Engineering Intern

Supervisor: Marius Pasca (Common Sense Team, Machine Intelligence).

Unsupervised discovery of paraphrases of complex compositional noun phrases.

Google

Summer 2013

Software Engineering Intern

Supervisor: Eric Altendorf (Common Sense Team, Machine Intelligence).

Integrated models of real-world knowledge into entity linking systems.

CLSP Summer Workshop at Johns Hopkins University

Summer 2012

Undergraduate Research Fellow

Supervisor: Matthew Blaschko.

Developed unsupervised learning methods to verify and explore image annotations.

Selected from a competitive undergraduate pool.

Facebook, Inc.

Summer 2011

Engineering Intern

Supervisor: Jen Burge (Engagement Team).

Engineered and tested new features for the People You May Know model.

Carnegie Mellon University

2010-2013

Undergraduate Research Assistant

Supervisors: Chris Dyer and Noah Smith.

Projects included tweet dependency parsing; multithreaded language models; political corpus analysis.

SERVICE

GENERAL

Analyzing and interpreting neural networks for NLP (BlackboxNLP) at EMNLP 2022

Organizing Committee.

EMNLP 2022

Area Chair (Interpretability).

ACL 2022

Session Chair (Interpretability).

EMNLP 2021

Area Chair (Interpretability).

6th Workshop on Representation Learning for NLP (RepL) at ACL 2021

Organizing Committee.

Association for Computational Linguistics (ACL) 2014

Student social co-chair.

DIVERSITY, EQUITY & INCLUSION

NAACL 2020

Panelist - D&I Session: Inclusivity in Conferences

Association for Computational Linguistics (ACL) 2020

Accessibility Subcommittee.

Staff Pride Network disability representative (2019-2020)

Representative for disabled students in school-wide LGBTQ+ network.

FRIVOLITY

Radical Utopian Sci-Fi Enclave (RUSE) (2019-2020)

Co-organized monthly department political sci-fi book club.

ILCC Cookie Czar (2017-2019)

Organize weekly department social event.

Edinburgh ML4NLP Reading Group (2018-2019)

Organize and lead weekly reading group.

Auld Reekie Roller Derby (2018-2019)

Communications committee.

North American Computational Linguistics Olympiad (2012-2014)

Puzzle tester and local organizer.

REVIEWING

- Conferences
 - ICLR
 - ACL
 - ICML
 - EMNLP
 - NAACL
 - EACL
 - NeurIPS
 - ACL Rolling Review
- Workshops
 - I Can't Believe It's Not Better (NeurIPS Negative Results Workshop)
 - CoNLL
 - BlackboxNLP
 - RepEval for NLP
 - Learning With Limited Data
 - Women in Machine Learning
 - Widening NLP (WiNLP)