

Koustuv Sinha

CONTACT INFORMATION

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RESEARCH INTERESTS

Systematicity in Natural Language Processing, Neural Reasoning on Language, Linguistics, Dialog Systems

EDUCATION

McGill University, Montreal, QC, Canada

PhD Candidate, School of Computer Science, September 2018 - present

- Advised by: Dr Joelle Pineau
- Collaborators: Dr Adina Williams, Dr William L. Hamilton, Dr Timothy J o'Donnell
- GPA : 4.0

MSc Thesis, School of Computer Science, September 2016 - August 2018

- Thesis: *Hierarchical text classification of large-scale topics: a Neural approach*
- Advised by: Dr Derek Ruths, Collaboration with: Dr Joelle Pineau
- GPA : 3.94/4

West Bengal University of Technology, West Bengal, India

Bachelor of Technology, Department of Computer Science & Engineering, August 2010 - May 2014

School: Institute of Engineering & Management

- Advised by Prof Ee-kian Wong
- Degree Grade Point Average (DGPA) : 9.16 / 10

RESEARCH EXPERIENCE

Meta AI / Facebook AI Research (FAIR), Montreal, QC, Canada

PhD Research Intern

January 2019 - December 2021

- Manager: Dr Joelle Pineau, collaborations from NLP group: Dr Adina Williams, Dr Douwe Kiela, Dr Dieuwke Hupkes, Dr Robin Jia, Dr Adi Renduchintala
- Collaborations from Covid X-ray diagnosis group: Anuroop Sriram, Matthew Muckley
- Collaborations from Core ML group: Shagun Sodhani

Samsung Advanced Institute of Technology, Montreal, QC, Canada

Research Intern

Summer 2018

- Collaborations from Language Technology group: Sanghyun Yoo

McGill University / Mila - Quebec AI Institute, Montreal, QC, Canada

Research Associate, Reasoning and Learning Lab / Mila

June 2017 - present

Supervised by Dr. Joelle Pineau

Research Associate, Network Dynamics Lab

September 2016 - August 2018

Supervised by Dr. Derek Ruths and collaboration with David Jurgens

Research Associate, txtLab - NovelTM Project September 2016 - August 2017
Supervised by Dr. Andrew Piper

Indian Institute of Technology, Kanpur, India

Senior Project Associate September 2015 - March 2016
Department of Computer Science & Engineering
Supervised by Dr. Arnab Bhattacharya & Dr. Koumudi Patil

TEACHING EXPERIENCE

McGill University, Montreal, QC, Canada

Teaching Assistant, COMP 652 Machine Learning Fall 2018
Riashat Islam, Dr Audrey Durand

Teaching Assistant, COMP 551 Applied Machine Learning Fall 2017,
Prof. Dr. Joelle Pineau, Dr Herke Van Hoof, Sarath Chandar, Winter 2018
Ryan Lowe

Teaching Assistant, COMP 102B Computers & Computing Winter 2017
Prof. Dr. Derek Ruths

Teaching Assistant, COMP 189 Computers & Society Fall 2016
Prof. Dr. Derek Ruths

PUBLICATIONS

- [Koustuv Sinha](#), Robin Jia, Dieuwke Hupkes, Joelle Pineau, Adina Williams, Douwe Kiela; *Masked Language Modeling and the Distributional Hypothesis: Order Word Matters Pre-training for Little*, Empirical Methods of Natural Language Processing (EMNLP), 2021
- Prasanna Parthasarathi, [Koustuv Sinha](#), Joelle Pineau, Adina Williams; *Sometimes we want Translationese*, Empirical Methods of Natural Language Processing (EMNLP) Findings 2021
- [Koustuv Sinha](#), Prasanna Parthasarathi, Joelle Pineau, Adina Williams; *UnNatural Language Inference*, Association of Computational Linguistics (ACL), 2021, **Oral, Outstanding Paper Award**
- Joelle Pineau, Philippe Vincent-Lamarre, [Koustuv Sinha](#), Vincent Larivière, Alina Beygelzimer, Florence d'Alché-Buc, Emily Fox, Hugo Larochelle; *Improving Reproducibility in Machine Learning Research (A Report from the NeurIPS 2019 Reproducibility Program)*, Journal of Machine Learning Research (JMLR), 2020
- Nicolas Gontier, [Koustuv Sinha](#), Siva Reddy, Christopher Pal; *Measuring Systematic Generalization in Neural Proof Generation with Transformers*, Neural Information Processing Systems (NeurIPS), 2020
- [Koustuv Sinha](#), Joelle Pineau, Jessica Forde, Rosemary Nan Ke, Hugo Larochelle; *NeurIPS 2019 Reproducibility Challenge*, ReScience-C Journal, Volume 6, Issue 2, 2020
- [Koustuv Sinha](#), Prasanna Parthasarathi, Jasmine Wang, Ryan Lowe, William L. Hamilton, Joelle Pineau; *Learning an Unreferenced Metric for Online Dialog Evaluation*, Association of Computational Linguistics (ACL), 2020
- Emily Goodwin, [Koustuv Sinha](#), Timothy J O'Donnell; *Probing Linguistic Systematicity*, Association of Computational Linguistics (ACL), 2020
- [Koustuv Sinha](#), Shagun Sodhani, Jin Dong, Joelle Pineau and Will Hamilton; *CLUTRR: A Diagnostic Benchmark for Inductive Reasoning in Text*, Empirical Methods of Natural language Processing (EMNLP), 2019, **Oral**
- Joelle Pineau, [Koustuv Sinha](#), Genevieve Fried, Rosemary Nan Ke, and Hugo Larochelle; *ICLR Reproducibility Challenge, 2019*, ReScience-C Journal, Volume 5, Issue 2, 2019

- [Koustuv Sinha](#), Yue Dong, Jackie Chi-kit Cheung and Derek Ruths; *A Hierarchical Neural Attention-based Text Classifier*, Empirical Methods of Natural language Processing (EMNLP), 2018
- Peter Henderson, [Koustuv Sinha](#), Nicolas Angelard-Gontier, Nan Rosemary Ke, Genevieve Fried, Ryan Lowe, Joelle Pineau; *Ethical Challenges in Data-Driven Dialogue Systems*, AAAI/ACM conference on Ethics and Safety, 2017

PREPRINTS

- Anuroop Sriram, Matthew Muckley, [Koustuv Sinha](#), Farah Shamout, Joelle Pineau, Krzysztof J. Geras, Lea Azour, Yindalon Aphinyanaphongs, Nafissa Yakubova, William Moore; *COVID-19 Deterioration Prediction via Self-Supervised Representation Learning and Multi-Image Prediction*, January 2021
- [Koustuv Sinha](#), Shagun Sodhani, Joelle Pineau, William L. Hamilton; *Evaluating Logical Generalization in Graph Neural Networks*, March 2020
- Nicolas Gontier, [Koustuv Sinha](#), Peter Henderson, Iulian Serban, Michael Noseworthy, Prasanna Parthasarathi, Joelle Pineau; *The RLLChatbot: a solution to the ConvAI Challenge*, November 2018
- Peter Henderson, [Koustuv Sinha](#), Rosemary Nan Ke, Joelle Pineau; *Adversarial Gain*, November 2018

INVITED TALKS

- *Hands on Reproducibility in Machine Learning*, Bielefeld University, Germany, October 2021 (held online)
- *ML Reproducibility - From Theory to Practice*, MICCAI Hackathon, Peru, October 2020 (held online)
- *ML Reproducibility - From Theory to Practice*, DL4Science Seminar, Lawrence Berkeley National Laboratory, Berkeley, August 2020 (held online)
- *Evaluating Logical Generalization with Graph Neural Networks*, Weights and Biases Salon, May 2020 (held online)
- *Best practices for ensuring Reproducibility in CS Research*, 1st Annual CS-Can Student Symposium, Montreal, 2019
- *On the unreasonable complexity of detecting social interactions in literature*, [Digital Humanities \(DH\) 2017](#), July'17, McGill University, Montreal

ACTIVITIES

- Co-organizer, Machine Learning Reproducibility Challenge (2021*, 2020*, 2019 NeurIPS, 2019 ICLR, 2018 ICLR)
* From 2020 onwards, the Machine Learning Reproducibility Challenge incorporated papers from 7 top conferences: *NeurIPS, ICML, ICLR, ACL, EMNLP, CVPR, ECCV*
- Reproducibility Co-Chair, Neural Information Processing Systems (NeurIPS), 2019, 2020
- Associate Editor, [ReScience](#) (2019-Present)
- Co-organizer, NILLI: Novel Ideas in Learning to Learn with Interaction Workshop, Empirical Methods of Natural Language Processing (EMNLP) 2021
- Co-organizer, ML Retrospectives Workshop, Neural Information Processing Systems (NeurIPS) 2019
- Student Volunteer, Neural Information Processing Systems (NeurIPS), Montreal, December 2018
- Student Volunteer, [Montreal AI Symposium \(MAIS\)](#), August 2018
- Student Volunteer, 11th International Conference on Web and Social Media (ICWSM), May 2017, Montreal
- President, [Computer Science Graduate Society \(CSGS\)](#), McGill University, 2018-19; VP Social and Finance, 2017-18
- Host, [Nodeschool Kolkata Chapter](#), Institute of Engineering & Management, Kolkata, May 2016.

AWARDS &
ACHIEVEMENTS

- **Outstanding Paper Award** at Association for Computational Linguistics (ACL) 2021 for the paper “UnNatural Language Inference”
- **Fonds Nature et Technologies Quebec (FRQNT)** scholarship for Master level study in Computer Science, 2018
- **Facebook ParIAI Grant** for project proposal *Multi-model dialog generation with Off-Policy Q Learning*, Fall 2017
- **Pierre Arbour Foundation Scholarship** for Master level study in Computer Science & Engineering, 2017-18
- **Sridharacharya Prize** for Computer Excellency awarded due to consistent Highest Marks in Computer Science at Ramakrishna Mission Vidyalaya, Narendrapur, 2007

REFERENCES

Available on request.

MORE
INFORMATION

Google Scholar Profile
<https://scholar.google.ca/citations?user=9P9QcckAAAAJ&hl=en>
LinkedIn Profile
<https://in.linkedin.com/in/koustuvsinha>.
Github Profile
<https://github.com/koustuvsinha>.