Nishant Subramani

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Objective

I'm a research scientist at the AI Foundation working on representation learning and fake speech detection.

Work Experience

- **Research Scientist** — AI Foundation
  Deep Learning — July 2019 – Present
  - Working on representation learning and fake speech detection.

Education

- **Courant Institute of Mathematical Sciences - New York University** — New York, NY
  M.S. Computer Science (Deep Learning & NLP) — Sept 2017 – May 2019
  - **Research Advisors:** Kyunghyun Cho and Sam Bowman
  - **Graduate Courses**: Deep Learning, Deep Generative Models, Deep Learning for NLP, Network & Mobile Systems
- **Northwestern University** — Evanston, IL
  B.A./M.S. Statistics/Computer Science; **Stat GPA:** 3.963/4.000; **MS GPA:** 4.000/4.000 — Sept 2013 – June 2017
  - **Graduate Courses**: Deep Learning, Machine Learning Foundations, Probabilistic Graphical Models, Data Mining, Adv Topics in ML, Statistical Pattern Recognition, Computational Learning Theory, Adv Topics in Bayesian Stats

Publications

1. Subramani, Nishant, Samuel, Bowman, and Kyunghyun Cho. "Can Unconditional Language Models RecoverArbitrary Sentences?" **Under Review for NeurIPS 2019**
2. Subramani, Nishant. "Pag2admg: An Algorithm for the Complete Causal Enumeration of a Markov Equivalence Class" In *ICML Workshop on CausalML*. 2018.
3. Subramani, Nishant, and Doug Downey. "PAG2ADMG: A Novel Methodology to Enumerate Causal Graph Structures" In *31st AAAI Conference on Artificial Intelligence*. 2017. **Student Abstract**
4. Subramani, Nishant. "Identifying the Best Predictors of Unmet Health Care Needs in Children with DBD." *Northwestern Undergraduate Research Journal* (2015).

Research Experience

- **Research Assistant in Deep Learning/NLP** — New York University
  PIs: Kyunghyun Cho and Sam Bowman — September 2017 – Present
  - Developed a framework to analyze the sentence space of a recurrent neural language model.
  - Built a pipeline to investigate using a language model as a universal decoder for multitask natural language generation.
- **Deep Learning Research Intern** — Salesforce (Metamind Group)
  Advisor: Richard Socher — March 2017 – August 2017
  - Built a multitask NLP system trained end-to-end for a vareity of NLP tasks.
  - Evaluated impact of CoVe pretraining on state of the art abstractive summarization seq2seq models.
- **Research Assistant in Deep Learning & NLP** — Northwestern University
  PI: Doug Downey — July 2014 – March 2015; March 2016 – June 2017
  - Developed and evaluated extrapolator-based hyperparameter optimization methods, adaboost-based ensembling methods, hashing-based dropout, and importance sampling for recurrent language modeling.
  - Incorporated prior knowledge into word2vec training to improve performance on analogy tasks.
- **Research Assistant in Biomedical Informatics** — Stanford University
  PI: Olivier Gevaert — Jun 2015 – Jan 2016
  - Developed a Bayesian Network structure learning methodology to identify a genetic basis for Glioblastoma.

Teaching Experience

- **Teaching Assistant at NYU** — Jan 2018 – May 2018
  DSGA-1012: Natural Language Understanding (Graduate Course)
- **Graduate Teaching Assistant at Northwestern** — Sept 2016 – March 2017
  Probabilistic Graphical Models, Statistical Language Modeling (Deep Learning)
- **Undergraduate Teaching Assistant at Northwestern** — Sept 2014 – March 2017
  Computing Applications I, Computing Applications II, Math for CS, Machine Learning

Professional Service

- **Deep Learning Consultant** — Talkspace
  Hiring Manager: Bonnie Ray — November 2017 – August 2018
  - Taught Talkspace's Data Science team about deep learning fundamentals and helped them build domain-specific models.
- **Conference Reviewer** — May 2017 – Present
  Delegate Reviewer for EMNLP 2019; ICLR 2019; NIPS 2017; ICCV 2017

Skills

- **Proficient Languages/Packages:** Python, R, PyTorch
- **ML Methods:** Deep Learning (RNNs, CNNs, Transformers, Seq2seq), Bayesian Networks, Graphical Models
- **Other Computational Methods:** Variational Inference, AdaBoost, Clustering