Vishwali Mhasawade

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RESEARCH INTERESTS

I am interested in developing probabilistic models for improving clinical care by incorporating information from multiple environments. I am also interested in studying the causal mechanism in large scale electronic health records data and developing fair models that can be transported across different environments.

EDUCATION

New York University, New York, USA **09/2019 - Present**
Ph.D. in Computer Science. **Advisor: Rumi Chunara**

New York University, New York, USA **09/2017 - 05/2019**
Master of Science in Computer Science. **Advisor: Rumi Chunara** *CGPA : 3.785/4*

Pune University, Pune, India **06/2013 - 06/2017**
Bachelor of Engineering in Computer Engineeing *CGPA : 3.695/4*

PUBLICATIONS

1. **Vishwali Mhasawade**, Nabeel Abdur Rehman, Rumi Chunara. Population-aware Hierarchical Bayesian Domain Adaptation via Multi-component Invariant Learning. *ACM Conference on Health, Inference and Learning, 2020.*
2. **Vishwali Mhasawade**, Anas Elghafari, Dustin Duncan, Rumi Chunara. Role of the Online and Built Social Environments in the expression of dining on Instagram. *International Journal of Environmental Research and Public Health, 2020.*
3. Harvineet Singh, Rina Singh, **Vishwali Mhasawade**, Rumi Chunara. Fair Predictors under Distribution Shift. *Fair ML for Health workshop at NeurIPS, 2019.* **Spotlight presentation**.
4. **Vishwali Mhasawade**, Nabeel Abdur Rehman, Rumi Chunara. Population-aware Hierarchical Bayesian Domain Adaptation. *Machine Learning for Health (ML4H) Workshop at NeurIPS, 2018.*
5. Gregory W. Johnsen, Ling Lin, Lucia Yu, Andrew Dempsey, **Vishwali Mhasawade**, Daniel Jaroslawicz, Iddo Drori. Explainable Musical Phrase Completion. *Joint Workshop on Machine Learning for Music at ICML, 2018.*
6. **Vishwali Mhasawade**, Ildikó Emese Szabó, Melanie Tosik, Sheng-Fu Wang. Neural Networks and Quantifier Conservativity : Does Data Distribution affect learnability? *arXiv preprint arXiv:1809.05733, 2018.*
7. **Vishwali Mhasawade**, Akanksha Joshi. Bharatnatyam Hand-Gesture Recognition using Contour Detection. *International Journal of Computer Applications 975: 8887.*

RESEARCH EXPERIENCE

New York University **New York, USA**
Projects *09/2017 - Present*

- **Population-aware Hierarchical Bayesian Domain Adaptation** PI: Rumi Chunara
  Developed a multi-source hierarchical Bayesian model for predicting influenza while incorporating population demographic information. We provide the significance of the environment-specific information along with the invariant information in the presence of selection bias.

- **Mediation Study of Online Social Environment** PI: Rumi Chunara
  Analyzed the mediation effect of online social environment on the relationship between the built environment of an individual and the expression of dining-related behavior on Instagram. We found that the mediation effect of the online social environment on the relationship between the restaurant types(built environment) and the health-related behavior of posting dining-related posts on Instagram is significant and differs across the time of the day.

- **Effect of data distribution on learning quantifier conservativity** PI: Sam Bowman
  Designed experiments to study how distribution of conservative and non-conservative quantifiers in training data affect learning in LSTMs to study if this reflects the learnability bias reflected by children since all natural language determiners are conservative.

- **Explainable Musical Phrase Completion** PI: Iddo Drori
  Synthesized monophonic music using explainable models; focusing on iterative process of creation as opposed to sequential manner. We focused on improving the interpretability of creative neural models.

Pune University **Pune, India**
Projects *08/2015 - 05/2017*

- **English to Marathi transliteration** PI: Sunil Shelke
  Developed a framework to perform transliteration of words from English to Marathi (Indian language).

- **Bharatnatyam Hand Gesture Recognition** PI: Geetanjali Kale
  Using contour detection, developed a framework to recognize the different hand gestures used in Bharatnatyam (Indian classical dance form).

NON-RESEARCH EXPERIENCE

FairFrame Inc. **New York, USA**
Co-Founder and Machine Learning Head *02/2018 - 11/2018*
Winner of NYU $300K Entrepreneurs Challenge, 2018.

In2things Automation Pvt. Ltd. **Pune, India**
Software Development Intern *12/2016 - 02/2017*

TEACHING EXPERIENCE

New York University
Teaching Assistant *Fall 2018*
Deep Learning (CS-GY 9223)
Instructor: Iddo Drori

AWARDS

School of Engineering Fellowship *New York University, 2019-2020*

SERVICE

Reviewer
ML4H workshop at NeurIPS, 2019.

TECHNICAL SKILLS

Programming Languages: (Proficient) Python; (Familiar) R, C++, Matlab, Javascript.
ML Frameworks: Tensorflow, PyTorch, Keras, Pyro, GPyTorch.
Applications and Tools: LaTex, git, MS Office, Bash Scripting.