

# Himank Yadav

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## EDUCATION

### CORNELL UNIVERSITY

PhD in Computer Science  
Advisor: Thorsten Joachims  
Aug 2018 - Present  
Ithaca, NY  
Counterfactual Policy Learning  
Fairness in Machine Learning

### TEXAS A&M UNIVERSITY

BS in Computer Science  
Cum. GPA: 4.0 / 4.0  
May 2018  
Summa Cum Laude  
Undergraduate Research Scholar  
Facebook Tuition Scholarship '16  
Accenture Tuition Scholarship '15  
Engineering Honors

## TEACHING

Head TA: CS 4780 Machine Learning  
Head TA: CS 2110 Data Structures

## COURSEWORK

Advanced Machine Learning  
Computer Vision  
Natural Language Processing  
Design and Analysis of Algorithms  
Distributed Systems  
Functional Programming

## SKILLS

Proficient:

Java • Python

Exposure to:

C • C++ • Numpy • PyTorch • Swift  
• Flask • iOS • Android • Haskell •

GlowScript • HTML/CSS •

JavaScript • Django

Software/Tools:

Git • Phabricator • Mercurial •

CircleCI • Xcode • Sketch • 3DS

## LINKS

Github:// [him229](#)

LinkedIn:// [himankyadav](#)

Devpost:// [him229](#)

## RESEARCH

### MACHINE LEARNING LAB | Research Assistant

Supervisor: Dr. Thorsten Joachims | Ithaca, NY | Dec 2018 - Present

- Policy learning for fairness of exposure with bandit feedback.
- Present the first learning-to-rank framework, FULTR, that addresses both intrinsic and extrinsic fairness when learning from implicit feedback.
- Define a class of amortized fairness-of-exposure constraints that can be enforced despite the selection biases in implicit feedback data.
- Provide an efficient policy- gradient algorithm that can optimize both utility and fairness via counterfactual estimators.

### CORNELL VISION LAB | Research Assistant

Supervisor: Dr. Noah Snavely | New York, NY | Aug 2018 - Dec 2018

- Studying wide-baseline matching, i.e., establishing correspondences between a pair of images taken from very different viewpoints.
- Using a Siamese network to train visual descriptors, which learn to find dense correspondences for image matching.
- Initial experiments show that our network trained on wide-baseline correspondence offers performance boost over existing methods.

### PARASOL COMPUTING LAB | Research Assistant

Supervisor: Dr. Jennifer Welch | College Station, TX | Sep 2017 - July 2018

- A failure detector for dynamic asynchronous distributed systems in which new participants may continually join or leave the system (a phenomenon called churn), and active participants may fail.
- Our algorithm detects failed processes in async systems with churn by exploiting the dynamic nature of the system to estimate elapsed time.

## PUBLICATIONS

- [1] Himank Yadav, Zhengxiao Du, and Thorsten Joachims. Fair learning-to-rank from implicit feedback. *arXiv preprint arXiv:1911.08054*, 2019. Under Review as a Conference Submission.
- [2] Himank Yadav. *Detecting Failures in an Asynchronous System That Never Stops Changing*. Dissertation, Texas A&M University, 2018.

## WORK EXPERIENCE

### FACEBOOK | Intern | Core Services

May 2017 – Aug 2017 | Menlo Park, CA

- Developed a system to detect and predict service dependency outages in production to improve reliability for core app teams (Newsfeed, Instagram).

### NEXTDOOR | Intern | International Growth

Jan 2017 – May 2017 | San Francisco, CA

- Built and deployed a containerized geolocation service that normalizes addresses and provides coordinates with an avg latency of 2 ms.

### APPLE | Intern | Maps

May 2016 – Aug 2016 | Sunnyvale, CA

- Developed and shipped an ATS with an independent server-side RESTful API. Set-up a continuous integration and deployment release pipeline.