# Ashudeep Singh

*PhD Candidate, Computer Science, Cornell University*

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## Education

2015-present **Ph.D. Computer Science**, *Cornell University*, Ithaca, NY.
Advisor: Thorsten Joachims
Thesis Committee: Solon Barocas, Karthik Sridharan, David Mimno.
Topic: Fairness in Ranking and Recommendation Systems.
Relevant Courses: Machine Learning Theory, Advanced topics in Machine Learning, Design and Analysis of Algorithms, Causality and Learning for Intelligent Decision Making, Ethics and Policy in Data Science.
Grade Point Average: 4.09

2010–2015 **B.Tech.-M.Tech. Dual Degree**, *Indian Institute of Technology Kanpur*, India.
M.Tech. Cumulative Performance Index (CPI)– 10/10
BTech. Cumulative Performance Index (CPI)– 9.6/10

## Publications

Marco Morik*, Ashudeep Singh*, Jessica Hong, Thorsten Joachims. **"Controlling Fairness and Bias in Dynamic Ranking"**. Accepted to ACM SIGIR 2020, Xi'an, China.

Ashudeep Singh and Thorsten Joachims. **"Policy Learning for Fairness in Ranking"**. In Proceedings of Advances in Neural Information Processing Systems (NeurIPS) 2019, vancouver, BC, Canada. [pdf]

Ashudeep Singh and Thorsten Joachims. **"Fairness of Exposure in Rankings"**. In KDD '18: The 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (SIGKDD), August 19–23, 2018, London, United Kingdom. ACM, New York, NY, USA. [pdf]

Ashudeep Singh, Thorsten Joachims. **"Equality of Opportunity in Rankings"**. At Workshop on Prioritising Online Content at NIPS 2017. [pdf]

Ashudeep Singh, Thorsten Joachims. **"Learning item embeddings using biased feedback"**. At Causal Inference and Machine Learning for Intelligent Decision Making Workshop at NIPS 2017. [pdf]

Tobias Schnabel, Adith Swaminathan, Ashudeep Singh, Navin Chandak, Thorsten Joachims. **"Recommendations as Treatments: Debiasing Learning and Evaluation"** In Proceedings of The International Conference on Machine Learning (ICML), 2016. [pdf]

David Adamson, Akash Bharadwaj, Ashudeep Singh, Colin Ashe, David Yaron, Carolyn P. Rosé. **"Predicting Student Learning from Conversational Cues"**. In Proceedings of 12th International Conference of Intelligent Tutoring Systems (ITS), Honolulu, HI, USA, June, 2014. [pdf]

David Adamson, Divyanshu Bhartiya, Biman Gujral, Radhika Kedia, Ashudeep Singh, Carolyn P. Rosé. **"Automatically Generating Discussion Questions"**. In Proceedings of 16th International Conference of Artificial Intelligence in Education (AIED), Memphis, TN, USA, July, 2013. [pdf]

## Research Internships

January–May 2020 **Google Brain**, *New York, NY.*
**"Avoiding Unhealthy Recommendation Experiences using Safe RL"**
*Research Internship project hosted by **Alex Beutel** (Google Brain).*

May–August 2019 **Microsoft Research**, *Montreal, QC, Canada.*
**"Feedback Loops and Producer-side fairness in Recommender systems"**
*Research Internship project working with **Fernando Diaz** (FATE Group).*

May–August 2017 **Facebook**, *Menlo Park, CA.*
**"Active Learning for Multilabel Classification"**
*Research internship project mentored by **Khalid El-Arini** (Feed Content Classification Team @ Newsfeed).*

May–August 2016 **Microsoft Research Lab**, *New York City, NY.*
**"Contextual Bandits for Personalization in fitness tracking applications"**
*Research internship project mentored by **John Langford** (MSR NYC) and **Ryen White** (Microsoft Health Intelligence and MSR Redmond).*

May–July 2014 **Cornell University**, *Ithaca, NY.*
**"Using Preference Data to embed documents in Metric spaces"**
*Summer Research Project mentored by **Prof. Thorsten Joachims** (Cornell University).*

May–July 2013 **Carnegie Mellon University**, *Pittsburgh, PA.*
**"A Computational Model for Quantitative Discourse Analysis in a Collaborative Learning Setting"**
*Summer Research Project mentored by **Prof. Carolyn P. Rosé** (Language Technologies Institute, CMU).*

## Awards and Achievements

2019 Awarded the NeurIPS Travel Award to attend NeurIPS 2019, Vancouver, BC, Canada.

2019 Outstanding TA Award by the Department of Computer Science for CS6780: Advanced Machine Learning class.

2018 Awarded the ACM Student Travel Award to attend SIGKDD 2018, London, UK.

2015 **Ranked first** in the M.Tech. batch of 108 students graduating in 2015 at IIT Kanpur.

2011–2015 Awarded **Academic Excellence Award** for outstanding academic achievements at IIT Kanpur for four consecutive years.

2010–2014 Awarded **CBSE Merit Scholarship** for Professional Studies by Central Board of Secondary Education, India.

2012 Recipient of **Summer Undergraduate Research Grant for Excellence (SURGE)**, granted by Dean Resource Planning and Generation, IIT Kanpur.

## Professional Service

Reviewer for ICML 2020, Neurips 2020, ICML 2019, NeurIPS 2019, AAAI 2020, FACTS-IR workshop at SIGIR 2019, Repl4NLP workshop at ACL 2018.

## Positions of Responsibility and Extra Curricular Activities

- Organized the **Machine Learning Discussion Group** at Cornell University **(2016-18)**
- Coordinated the PhD Visit Day 2016 for Cornell Computer Science Department as the **Visit Day Czar** with other czars, department staff and volunteers. **(2016)**
- Student Guide, Academic Mentor and Link Student for **Counselling Service**, IIT Kanpur **(2011–13)**

## Teaching

- **Teaching Assistant** for CS6780: Advanced Machine Learning, CS4786: Machine Learning for Data Science, CS4780/5780 : Machine Learning for Intelligent Systems at Cornell University (2015–19)
  - Awarded an Outstanding TA Award for CS 6780: Advanced Machine Learning (Spring 2019).
- **Teaching Assistant** for CS679: Machine Learning for Vision and ESC101:Fundamentals of Computing at IIT Kanpur (2014–15)