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
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

Ashudeep Singh and Thorsten Joachims. **"Policy Learning for Fairness in Ranking"**. Accepted in Neural Information Processing Systems (NeurIPS) 2019. [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"**. Workshop on Prioritising Online Content at NIPS 2017. [pdf]

Ashudeep Singh, Thorsten Joachims. **"Learning item embeddings using biased feedback"**. 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

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"
	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"
	Research Project mentored by **Prof. Carolyn P. Rosé** *(Language Technologies Institute, CMU)*

Awards and Achievements

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.
2010	Awarded the **Certificate of Merit** in English for being in the top 0.1% students in the country for All India Senior School Certificate Examination.

Professional Service

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

Positions of Responsibility and Extra Curricular Activities

- 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, Counselling Service, IIT Kanpur** **(2011–12)**
  Guided freshmen for a year to adjust to the campus environment.
- **Academic Mentor, Counselling Service, IIT Kanpur** **(2011–12)**
  Conducted remedial classes for subjects like Fundamentals of Computing & Mathematics-I,II
- **Link Student, Counselling Service, IIT Kanpur** **(2012–13)**
- **Member of Hall Executive Committee**, Hall 9, IIT Kanpur **(2011–12)**
- **Secretary, Hospitality Cell**, Techkriti 2011 **(2011)**.

Teaching

- **Teaching Assistant** for **CS6780: Advanced Machine Learning** **(Spring 2018)**
  Faculty Instructor: Prof. Thorsten Joachims (Cornell University)
  Awarded an *Outstanding TA* Award.
- **Teaching Assistant** for **CS4786: Machine Learning for Data Science** **(Spring 2016)**
  Faculty Instructor: Prof. Karthik Sridharan (Cornell University)

- **Teaching Assistant** for **CS4780/5780 : Machine Learning for Intelligent Systems** **(Fall 2015)**
  Faculty Instructor: Prof. Kilian Weinberger (Cornell University)
- **Teaching Assistant** for **CS679–Machine Learning for Vision** **(Spring 2015)**
  Faculty Instructor: Prof. Vinay P. Namboodiri (IIT Kanpur)
- **Tutor (Graduate Student Instructor)** for **ESC101–Fundamentals of Computing** **(Fall 2014)**
  Faculty Instructor: Prof. Amey Karkare (IIT Kanpur)

Programming Skills

Languages: Python, C++, C, C#, Matlab, LaTeX, HTML, Bash SQL
Deep Learning Frameworks: Pytorch, Tensorflow