

SOMNATH BASU ROY CHOWDHURY

Residential Information

Carrboro, NC
Chapel Hill 27516, US.

Electronic Information

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Research Interests

Representation Learning, Information-Theoretic evaluation metrics and Fairness in NLP.

Education

University of North Carolina (UNC) at Chapel Hill

Jan 2021 - present

Ph.D. in Computer Science

Advisor: Prof. [Snigdha Chaturvedi](#)

Indian Institute of Technology (IIT) - Kharagpur, India

2013 - 2018

B.Tech. & M.Tech. (Dual Degree Hons.) in Electrical Engineering

Rank - 3/31

Minor in Computer Science & Engineering (CSE)

Micro-specialization in Embedded Wireless Systems (EWS)

Advisor: Prof. [Jayanta Mukhopadhyay](#)

Industry Experience

Google Research, Mountain View

May 2022 - Dec 2022

Student Researcher (Collaborators: [Avinava Dubey](#), [Krzysztof Choromanski](#))

Microsoft Corp., India

Jul 2019 - Dec 2020

Data Scientist II, Satori Knowledge Graph (Bing team)

Apple Inc., India

Jun 2018 - Jul 2019

Software Engineer, Identity Management Services (IdMS).

Publications

Google Scholar: [xGbyrIUAAAAJ](#).

Pre-prints:

- [15] **Unsupervised Opinion Summarization Using Approximate Geodesics**

S. Basu Roy Chowdhury, N. Monath, A. Dubey, A. Ahmed and S. Chaturvedi

arxiv 2209.07496 [[pdf](#)]

- [14] **Sustaining Fairness in Incremental Learning**

S. Basu Roy Chowdhury and S. Chaturvedi

arxiv 2208.12212 [[pdf](#)]

Conference and Journal papers:

- [13] **Learning Fair Representations via Rate-Distortion Maximization**

S. Basu Roy Chowdhury and S. Chaturvedi

Proceedings of TACL 2022. [[pdf](#)] [[MIT Press](#)]

- [12] **Unsupervised Extractive Opinion Summarization Using Sparse Coding**

S. Basu Roy Chowdhury, C. Zhao and S. Chaturvedi

Proceedings of ACL 2022. [[pdf](#)]

- [11] **Read Top News First: A Document Reordering Approach for Multi-document News Summarization**

C. Zhao*, T. Huang*, S. Basu Roy Chowdhury, M. Chandrasekaran, K. McKeown and S. Chaturvedi

Proceedings of ACL Findings 2022 (*short*). [[pdf](#)]

- [10] **Adversarial Scrubbing of Demographic Information for Text Classification**
S. Basu Roy Chowdhury, S. Ghosh, Y. Li, J. Oliva, S. Srivastava and S. Chaturvedi
Proceedings of EMNLP 2021. [\[pdf\]](#)
 - [9] **Is Everything in Order? A Simple Way to Order Sentences**
S. Basu Roy Chowdhury*, F. Brahman* and S. Chaturvedi
Proceedings of EMNLP 2021. [\[pdf\]](#)
 - [8] **Learning beyond datasets: Knowledge Graph Augmented neural networks for NLP**
K.M. Annervaz*, S. Basu Roy Chowdhury* and A. Dukkupati.
Proceedings of NAACL 2018 (Oral). [\[pdf\]](#)
- Other refereed publications:
- [7] **Does Commonsense help in detecting Sarcasm?**
S. Basu Roy Chowdhury and S. Chaturvedi
Proceedings of Insights from Negative Results in NLP workshop, EMNLP 2021. [\[pdf\]](#)
 - [6] **Towards efficient data normalization using grammar-based parsing**
S. Basu Roy Chowdhury, A. Mishra and A. Banerjee
Proceedings of Microsoft Journal of Applied Research, MSJAR 2020. [\[pdf\]](#)
 - [5] **Instance-based Inductive Deep Transfer Learning by Cross-Dataset Querying with LSH**
S. Basu Roy Chowdhury, K.M. Annervaz and A. Dukkupati.
Proceedings of DeepLo Workshop, EMNLP 2019. [\[pdf\]](#)
 - [4] **AdGAP: Advanced Global Average Pooling**
A. Ghosh, B. Bhattacharya* and S. Basu Roy Chowdhury*
Proceedings of Student Abstract and Poster Program, AAAI 2018. [\[pdf\]](#)
 - [3] **Training Autoencoders in Sparse Domain**
B. Bhattacharya, A. Ghosh* and S. Basu Roy Chowdhury*
Proceedings of Student Abstract and Poster Program, AAAI 2018. [\[pdf\]](#)
 - [2] **Handwriting Profiling using Generative Adversarial Networks**
A. Ghosh*, B. Bhattacharya* and S. Basu Roy Chowdhury*
Proceedings of Student Abstract and Poster Program, AAAI 2017. [\[pdf\]](#)
 - [1] **SAD-GAN: Synthetic Autonomous Driving using Generative Adversarial Networks**
A. Ghosh*, B. Bhattacharya* and S. Basu Roy Chowdhury*
Proceedings of DLAI Workshop, NeurIPS 2016. [\[pdf\]](#)

(* = equal contribution)

Theses:

- [1] **Lung Cancer segmentation in 3D CBCT Images**
Advisor: Prof. [Jayanta Mukhopadhyay](#)
M.Tech. Thesis, IIT Kharagpur [\[pdf\]](#)

Research Experience

Statistics and Machine Learning Group, IISc (May 2017 - Apr 2018)
Research Intern, Topic: Low Resource NLP
Advisor: Prof. [Ambedkar Dukkupati](#)

Accenture Technologies Lab (ATL) (May 2017 - Jul 2017)
Research Intern, Topic: Knowledge graph enhanced NLP
Advisor: [K. M. Annervaz](#) (ATL), Prof. [Ambedkar Dukkupati](#), (IISc)

Visual Information Processing Lab - IIT Kharagpur (Jul 2016 - May 2018)
Undergraduate Researcher, Topic: Lung Cancer Segmentation in 3D CBCT
Advisor: Prof. [Jayanta Mukhopadhyay](#)

National Brain Research Centre - Gurgaon, India (May 2015 - Jul 2015)
IAS Summer Fellow, Topic: Image Processing in MRI scans
Advisor: Prof. [Pravat Mandal](#)

Talks

‘Adversarial Debiasing in NLP’, NLP Course, UNC CH (Apr 2022)
‘Probabilistically grounded word embeddings’, Bing paper reading forum, *Microsoft* (Nov 2019)
‘Secure Machine Learning’, *Apple India Research Forum* (Apr 2019)

Professional Service/ Teaching

- **Program Committee Member/ Reviewer**
 - AAAI Conference on Artificial Intelligence 2023
 - ACL Rolling Review, EMNLP 2022, 2021
 - [Narrative Understanding Workshop](#), NAACL 2022, 2021
 - 2nd workshop on [Insights from Negative Results in NLP](#), EMNLP 2021
- *Teaching Assistant*
 - (EE21101) Signals and Networks Lab, IIT Kharagpur 2018
 - (EE19001) Electrical Technology Lab, IIT Kharagpur 2017

Academic Achievements

- *Student Volunteer Award*, ACL 2022 (*declined*) 2022
- *Travel Award* from GPSG, UNC Chapel Hill for EMNLP 2021 (*declined*) 2021
- *All India Rank 7* (EECS) - Nationwide Education & Scholarship Test (NEST - II). 2017
- *ACM-ICPC Asia-Chennai Regionals* - Rank 33/1100 2015
- *IAS Summer Research Fellowship* - National Brain Research Center 2015
- *INSPIRE Scholarship* - Top 1 percentile in ISC (Grade 12). 2013
- *Top ranks* - JEE (Mains, Advanced): 99+ percentile, Top 1% in ISCE & ISC 2013

Miscellaneous Activities

- *Winner of the WaterAid Marathon* Hyderabad - 5km category 2019
- *Best Innovation Award* - Apple EMEA Hackathon 2018
- *Special Mention in Technology GC* - Graduating batch LBS Hall. 2018
- *Silver-medal* winning Data Analytics team - Inter-hostel GC 2017
- *Gold-medal* winning Hardware Modeling team- Inter-hostel GC 2015
- 5th year distinction in *Fine Arts* and Painting - All India Art and Crafts Society 2010