SOMNATH BASU ROY CHOWDHURY

Residential Information
Carrboro, NC
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Electronic Information
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Research Interests

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

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 (Host: Dr. Kumar Avinava Dubey)

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:

[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
Accepted at TACL 2022. [pdf]

[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. Dukkipati.
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. Dukkipati.
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 Dukkipati

Accenture Technologies Lab (ATL)   (May 2017 - Jul 2017)
Research Intern, Topic: Knowledge graph enhanced NLP
Advisor: K. M. Annervaz (ATL), Prof. Ambedkar Dukkipati, (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	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 EMEIA 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