# SOMNATH BASU ROY CHOWDHURY

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## Research Interests

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

## Education

**University of North Carolina (UNC) at Chapel Hill**                    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

## Work Experience

**Microsoft Corporation**                                                (July 2019 - Dec 2020)
Data Scientist II, team (Bing)
Semi-Structured Information Retrieval for Satori Knowledge Graph.

**Apple Inc.**                                                           (June 2018 - July 2019)
Software Engineer, Identity Management Services (IdMS).
Complex event processing for access management.

## Publications

Google Scholar: xGbyrIUAAAAJ. (Note: Most computer science researchers publish more in conferences than journals. Conferences are considered equally or more prestigious than journals, all conferences below including short papers have an acceptance rate $< 25\%$. )

### Conference papers:

[10] **Adversarial Scrubbing of Demographic Information for Text Classification**
S. Basu Roy Chowdhury, S. Ghosh, Y. Li, J. Oliva, S. Srivastava and S. Chaturvedi
*Accepted (Long, main), EMNLP* 2021 [pdf]

[9] **Is Everything in Order? A Simple Way to Order Sentences**
S. Basu Roy Chowdhury*, F. Brahman* and S. Chaturvedi
*Accepted (Long, main), 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-HLT*, 2018. (*Long, 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 AAAI, Student Abstract and Poster Program*, 2018. [pdf]

[3] **Training Autoencoders in Sparse Domain**
B. Bhattacharya, A. Ghosh* and S. Basu Roy Chowdhury*
*Proceedings of AAAI, Student Abstract and Poster Program*, 2018. [pdf]

[2] **Handwriting Profiling using Generative Adversarial Networks**
A. Ghosh*, B. Bhattacharya* and S. Basu Roy Chowdhury*
*Proceedings of AAAI, Student Abstract and Poster Program*, 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

**UNC Chapel Hill**, Computer Science Dept. (2021 - *present*)
Graduate Research Assistant, UNC-NLP
Advisor: Prof. Snigdha Chaturvedi

**Accenture Technologies Lab** (ATL) (*Summer 2017*)
Research Intern, Topic: Knowledge graph enhanced NLP
Advisor: K. M. Annervaz (ATL), Prof. Ambedkar Dukkipati, (IISc)

**Statistics and Machine Learning Group**, IISc (*May 2017 - April 2018*)
Research Intern, Topic: Low Resource NLP
Advisor: Prof. Ambedkar Dukkipati

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

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

## Professional Service/ Teaching

- **Program Committee Member/ Reviewer**
  $2^{nd}$ workshop on Insights from Negative Results in NLP, EMNLP                    2021
  $3^{rd}$ workshop on Narrative Understanding Workshop, NAACL                    2021
- *Teaching Assistant*
  (EE21101) Signals and Networks Lab, IIT Kharagpur                    2018
  (EE19001) Electrical Technology Lab, IIT Kharagpur                    2017

## Talks

'Probabilistically grounded word embeddings', Bing paper reading forum, *Microsoft*                    (Nov 2019)

'Secure Machine Learning', *Apple India Research Forum*                    (April 2019)

## Academic Achievements

- *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
- *Department Change*, IIT Kharagpur - Rank 3/52 department students                    2014
- *INSPIRE Scholarship* - Top 1 percentile in ISC (Grade 12).                    2013
- *Top ranks* - JEE (Mains, Advanced): 99.9+ 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
- $5^{th}$ year distinction in *Fine Arts* and Painting - All India Art and Crafts Society                    2010