Anurag Roy

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EDUCATION

Indian Institute of Technology Kharagpur
Ph.D., Dept. of Computer Science and Engineering
Advisors: Prof. Saptarshi Ghosh and Prof. Abir Das
Kharagpur, India
2019–Current

Indian Institute of Engineering Science and Technology Shibpur
B.E.(Hons), CGPA: 8.13/10
Howrah, India
2013–2017

EXPERIENCE

India ML Team, Amazon Development Center India Pvt. Ltd.
Applied Data Scientist Intern
Bangalore, India
May 2019 - Jul 2019

- Predicting Product Trust Score
- Developed machine learning models to Predict Trust Score

Motorola Solutions, formerly Polaris Networks
Software Developer
Kolkata, India
Aug 2017 - Jul 2018

- Development of 5G network test tools
  - ∗ Developed 5g core network stack
  - ∗ Developed MCPTT tester
  - ∗ **Nominated for Star Performer Award for the year 2017**

CSE Department, IIT Kanpur
Research Intern
Kanpur, India
May 2017 - Aug 2017

- A Language Independent Morphological Clustering Algorithm
  - ∗ Analyzed different kinds of morphological variations existing over different languages.
  - ∗ Developed of an un-supervised clustering algorithm to capture the morphological variants of a word.

CST Department, IIEST Shibpur
Research Intern
Howrah, India
Dec 2016 - Jan 2017

- Rumour Identification in Twitter
- Developed using python and scikit-learn a program which identified rumor tweets in real-time by learning from previous data.

CSE Department, IIT Kharagpur
Research Intern at CNeRG Lab
Kharagpur, India
May 2016 - Jul 2016

- Understanding Relative Importance of Content & Responses on Community Survival in Reddit.
  - ∗ Developed an on-line survey application in flask and jinja.
  - ∗ Used machine learning models to evaluate accuracy

Journal Publications

[1] **A. Roy**, S. Ghosh, K. Ghosh, and S. Ghosh, "An unsupervised normalization algorithm for noisy text: A case study for information retrieval and stance detection", *J. Data and Information Quality*, vol. 13, no. 3, Apr. 2021, ISSN: 1936-1955.

[2] R. Dey, **A. Roy**, T. Chakraborty, and S. Ghosh, "Sleeping beauties in computer science: Characterization and early identification", *Scientometrics*, vol. 113, no. 3, pp. 1645–1663, 2017.

Conference Publications

[0] **A. Roy**, R. Moulick, V. K. Verma, S. Ghosh, and A. Das, "Convolutional prompting meets language models for continual learning", in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition 2024 (to appear)*, 2024.

[1] **A. Roy**, V. K. Verma, S. Voonna, K. Ghosh, S. Ghosh, and A. Das, "Exemplar-free continual transformer with convolutions", in *Proceedings of the IEEE/CVF International Conference on Computer Vision*, 2023, pp. 5897–5907.

[2] Y. Jain and **A. Roy**, "Distributed representation of tags for active zero shot learning", in *8th ACM IKDD CODS and 26th COMAD*, ser. CODS COMAD 2021, Bangalore, India: Association for Computing Machinery, 2021, pp. 228–232, ISBN: 9781450388177.

[3] **A. Roy**, V. K. Verma, K. Ghosh, and S. Ghosh, "Zscrgan: A gan-based expectation maximization model for zero-shot retrieval of images from textual descriptions", in *Proceedings of the 29th ACM International Conference on Information and Knowledge Management*, ser. CIKM '20, New York, NY, USA: Association for Computing Machinery, 2020, pp. 1315–1324, ISBN: 9781450368599.

[4] **A. Roy**, K. Ghosh, M. Basu, P. Gupta, and S. Ghosh, "Retrieving information from multiple sources", in *Companion Proceedings of the The Web Conference 2018*, ser. WWW '18, Lyon, France: International World Wide Web Conferences Steering Committee, 2018, pp. 43–44, ISBN: 9781450356404.

[5] M. Basu, **A. Roy**, K. Ghosh, S. Bandyopadhyay, and S. Ghosh, "A novel word embedding based stemming approach for microblog retrieval during disasters", in *Advances in Information Retrieval*, Cham: Springer International Publishing, 2017, pp. 589–597, ISBN: 978-3-319-56608-5.

[6] M. Basu, **A. Roy**, K. Ghosh, S. Bandyopadhyay, and S. Ghosh, "Microblog retrieval in a disaster situation: A new test collection for evaluation", in *Proceedings of the First International Workshop on Exploitation of Social Media for Emergency Relief and Preparedness co-located with European Conference on Information Retrieval, SMERP@ECIR 2017, Aberdeen, UK, April 9, 2017*, ser. CEUR Workshop Proceedings, 2017, pp. 22–31.

[7] **A. Roy**, T. Ghorai, K. Ghosh, and S. Ghosh, "Combining local and global word embeddings for microblog stemming", in *Proceedings of the 2017 ACM on Conference on Information and Knowledge Management*, ser. CIKM '17, Singapore, Singapore: Association for Computing Machinery, 2017, pp. 2267–2270, ISBN: 9781450349185.

Teaching

- **Teaching Assistant** at IIT Kharagpur — Spring 2021
  Programming & Data Structures Theory (CS10003)

- **Teaching Assistant** at IIT Kharagpur — Autumn 2021
  Programming & Data Structures Theory (CS10003)

- **Teaching Assistant** at IIT Kharagpur — Spring 2020
  Deep Learning (CS60010)

- **Teaching Assistant** at IIT Kharagpur   Autumn 2020
  Natural Language Processing (CS60075)
- **Teaching Assistant** at IIT Kharagpur   Spring 2019
  Machine Learning (CS60050)
- **Teaching Assistant** at IIT Kharagpur   Autumn 2019
  Programming & Data Structures Theory (CS10001)
- **Teaching Assistant** at IIT Kharagpur   Spring 2018
  Programming & Data Structures Lab (CS19101)

Technical Skills

- **Programming Languages:** C, C++ ,Python, Java
- **Deep Learning Libraries:** Pytorch, Tensorflow, theano
- **Database Management tools:** MySQL, SQLite
- **Big Data Management:** Pyspark

Languages

- **Bengali:** Native or bilingual proficiency
- **Enlgish:** Full professional proficiency
- **Hindi:** Limited working proficiency

Other Activities and Achievements

- Member at CodeIIEST   2014 –2017
  CodeIIEST is the coding society of IIEST Shibpur
- Member at Robodarshan   2016 –2017
  Robodarshan is the robotics society of IIEST Shibpur
- Student volunteer at ACM CODS COMAD   Jan 2019
  ACM CODS COMAD is a conference on data science and management
- Invited to attend Amazon Research Days   Sep 2018
  *Amazon Research Days is an interactive event organized by Amazon connecting
  Machine Learning (ML) experts across Amazon, Industry and Academia.*
- Student volunteer at ACM CODS COMAD   Jan 2019
  ACM CODS COMAD is a conference on data science and management
- Invited to attend Google Research Week   Jan 2023
  *Google Research Week is a three-day workshop facilitated by Google,
  fostering connections between Machine Learning (ML) experts from both Google and academia.*