

Hridoy Sankar Dutta

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LINKS

Website: <https://hridaydutta123.github.io>
Github: <https://github.com/hridaydutta123/>
DBLP: http://dblp.uni-trier.de/pers/hd/d/Dutta:Hridoy_Sankar
Google Scholar: <https://scholar.google.co.in/citations?user=4UrQjwUAAAAJ&hl=en>
LinkedIn: <https://www.linkedin.com/in/hridoy-sankar-dutta-18448a63/?ppe=1>

JOB EXPERIENCE

Research Assistant, University of Cambridge February 2021 - Present
Cambridge Cybercrime Centre
University of Cambridge

Short-Term Scholar, George Mason University June 2019 - August 2019
Mentored by Dr. Hemant Purohit
Assistant Professor, Information Sciences & Technology Department
George Mason University

Assistant Project Engineer, IIT Guwahati August 2014 - April 2015
Project Title: *Developing Text to Speech System in Assamese Language Phase II*
Supervisor: Dr. S.R.M.Prasanna, Professor, Dept. of EEE, Indian Institute of Technology, Guwahati (IIT-G)

EDUCATION

PhD in Computer Science and Engineering August 2017 - Present
Indraprastha Institute of Information Technology Delhi (IIIT-D), India
• Thesis Title: *Detecting and reasoning collusive activities in online media*
• Supervisor: **Dr. Tanmoy Chakraborty**, Assistant Professor & Ramanujan Fellow, Dept. of CSE, Indraprastha Institute of Information Technology Delhi (IIIT-D), India

M.Tech in Computer Science and Engineering 2015 - 2017
National Institute of Technology Durgapur, West Bengal, India
• Thesis Title: *An offline crisis mapping system for large-scale natural disasters*
• Supervisor: **Prof. Subrata Nandi**, Professor, Dept. of CSE, NIT Durgapur and **Dr. Sujoy Saha**, Assistant Professor, Dept. of CSE, NIT Durgapur
• CGPA of **9.15**/10 (Ranked 3rd)

B.Tech in Computer Science and Engineering 2009 - 2013
Institute of Science and Technology, Gauhati University, Assam, India
• Thesis Title: *Hierarchical Convergecasting with clustering and spanning tree generation*
• Supervisor: **Dr. Sushanta Karmakar**, Associate Professor, Dept. of CSE, Indian Institute of Technology Guwahati (IIT-G)
• Mentor: **Dr. Sandip Chakraborty**, Assistant Professor, Dept. of CSE, Indian Institute of Technology Kharagpur (IIT-KGP)
• CGPA of **9.17**/10

PAPERS UNDER REVIEW

- **Hridoy Sankar Dutta** and Tanmoy Chakraborty. Collusion on the web: A Survey.
- **Hridoy Sankar Dutta**, Kartik Aggarwal and Tanmoy Chakraborty. DECIFE: Detecting Collusive Users Involved in Blackmarket Following Services on Twitter.
- Deepak Thukral, **Hridoy Sankar Dutta**, Vikram Goyal, Tanmoy Chakraborty. Catch Me if You Can: Spotting Collusive Users Involved in Blackmarket Following Services.
- **Hridoy Sankar Dutta**, Nirav Diwan, Tanmoy Chakraborty. Weakening the Inner Strength: Spotting Core Collusive Users in YouTube Blackmarket Network.

- **Hridoy Sankar Dutta**, Mayank Jobanputra, Himani Negi, Tanmoy Chakraborty. Detecting and Analyzing Collusive Entities on YouTube.

(Type-A/A* conferences based on CORE ranking and high impact journals are highlighted in blue.)
* - Equal contribution

- **Hridoy Sankar Dutta**, Udit Arora and Tanmoy Chakraborty. ABOME: A Multi-platform Data Repository of Artificially Boosted Online Media Entities, *15th International AAAI Conference on Web and Social Media (ICWSM)*, Atlanta, GA, USA, June 7-10, 2021.
- Shreyash Arya and **Hridoy Sankar Dutta**. Revealing the Blackmarket Retweet Game: A Hybrid Approach, *AAAI Workshop on Combating Online Hostile Posts in Regional Languages during Emergency Situation (CONSTRAINT)*, Feb 8, 2021.
- **Hridoy Sankar Dutta** and Tanmoy Chakraborty. Adversarial Collusion on the Web: State-of-the-art and Future Directions, *The 8th International Conference on Big Data Analytics (BDA)*. (Tutorial)
- Udit Arora*, **Hridoy Sankar Dutta***, Brihi Joshi, Aditya Chetan, Tanmoy Chakraborty. Analyzing and Detecting Collusive Users Involved in Blackmarket Retweeting Activities, *ACM Transactions on Intelligent Systems and Technology (TIST)*. (Impact Factor: 3.971)
- **Hridoy Sankar Dutta**, Vishal Raj Dutta, Aditya Adhikary, Tanmoy Chakraborty. HawkesEye: Detecting Fake Retweeters using Hawkes Process and Topic Modeling, *IEEE Trans. Information Forensics and Security (TIFS)*. (Impact Factor: 6.211)
- **Hridoy Sankar Dutta** and Tanmoy Chakraborty. Blackmarket-driven Collusion among Retweeters Analysis, Detection and Characterization. *IEEE Transactions on Information Forensics and Security (TIFS)*. (Impact Factor: 6.211)
- Partha Sarathi Paul, Bishakh Chandra Ghosh, **Hridoy Sankar Dutta**, Kingshuk De, Arka Prava Basu, Prithviraj Pramanik, Sujoy Saha, Sandip Chakraborty, Niloy Ganguly, Subrata Nandi. CRIMP: Here Crisis Mapping Goes Offline. *Elsevier Journal of Network and Computer Applications (JNCA)*. (Impact Factor: 5.273)
- Aditya Chetan*, Brihi Joshi*, **Hridoy Sankar Dutta***, Tanmoy Chakraborty. CoReRank: Ranking to Detect Users Involved in Blackmarket-based Collusive Retweeting Activities. *12th ACM International Conference on Web Search and Data Mining (WSDM)*, Melbourne, Australia, Feb 11-15, 2019. (Acceptance rate: 16%)
- **Hridoy Sankar Dutta**, Aditya Chetan, Brihi Joshi, Tanmoy Chakraborty. Retweet Us, We Will Retweet You: Spotting Collusive Retweeters Involved in Blackmarket Services, *IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*, Barcelona, Spain, Aug 28-31, 2018. (Acceptance rate: 15%)
- Partha Sarathi Paul, **Hridoy Sankar Dutta**, Bishakh Chandra Ghosh, Krishnandu Hazra, Sandip Chakraborty, Sujoy Saha, Subrata Nandi. Offline crisis mapping by opportunistic dissemination of crisis data after large-scale disasters, *2nd ACM SIGSPATIAL International Workshop on the Use of GIS in Emergency Management*, California, United States, Oct 31-Nov 3, 2016.
- Sandip Chakraborty, Suchetana Chakraborty, Sushanta Karmakar, **Hridoy Sankar Dutta**. Hierarchical topology adaptation for distributed convergecast applications, In *29th Annual ACM Symposium on Applied Computing*, Gyeongju, Korea, March 24-28, 2014.

Visiting Researcher, Cardiff University

Mentored by Prof. Pete Burnap

Professor, School of Computer Science and Informatics, Cardiff University

March 2019 - March 2020

Student Researcher, ForkIT

Mentored by Prof. Subrata Nandi, Dept. of CSE, NIT Durgapur &

Dr. Sujoy Saha, Dept. of CSE, NIT Durgapur

An End-to-end system to generate Offline Crisis maps

May 2016 - June 2017

Summer Research Intern in DISARM Group, NIT Durgapur

Mentored by Prof. Subrata Nandi, Dept. of CSE, NIT Durgapur

Developed web application Admin Dashboard for Master Control Station at the time of disaster. Django, a python web framework was used to develop the application.

May 2016 - July 2016

Winter Research Intern in DISARM Group, NIT Durgapur

Mentored by Prof. Subrata Nandi, Dept. of CSE, NIT Durgapur

December 2015 - January 2016

Developed an Opportunistic Network for Android Application.

Project Intern, IIT Guwahati

Mentored by Dr. Sushanta Karmakar, Dept. of CSE, IIT Guwahati

January 2013 - June 2013

Worked on the Research Topic "Hierarchical topology adaptation for distributed convergecast applications"

SELECTED PROJECTS

All projects are available on git : <https://www.github.com/hridaydutta123>

- **ResourceFinder** - A resource map tool created during Covid-19 to locate nearby grocery shops, hospitals and gas stations with their opening time, closing time, phone number etc.
- **Assamese2Vec** - An open source project for modeling the Assamese language.
- **Awesome Twitter Tools** - A curated list of tools, datasets, research papers and browser extensions related to Twitter.
- **The YouTube Scraper** - Download YouTube video description and video comments without using the YouTube API.
- **Collusive User Detection Tool** - A tool for detection of collusive users in online social networks.
- **Opportunistic Network for Android Application** - Implementation of communication medium for challenge network scenario.
- **Offline Master Control Station** - Implementation of reliable and effective data transfer from opportunistic network and tool for analyzing behaviour of data captured in opportunistic networks.
- **Designing TTS System in Assamese and Manipuri Languages** - It involves building systems for synthesizing natural speech in native Assamese and Manipuri tone from a given text and building user friendly GUIs for the common people.
- **MapDisarm** - Offline efficient transfer of OSM Map tiles among various devices without internet connectivity for gps based recovery in Opportunistic network.

ACHIEVEMENTS AND AWARDS

- Selected in the Rising Stars in Data Science workshop to be organized by the Center for Data and Computing (CDAC), University of Chicago.
- Awarded 3rd prize for presenting my work at Ninth IDRBT Doctoral Colloquium IDC 2019.
- Awarded Student Travel Grant to attend CODS COMAD 2019.
- Grand Challenge Grade **A** winner at International Symposium on Embedded Devices (ISED) 2016 at IIT Patna.
- Came **1st Runners Up** in Startup Weekend, Kolkata (5-7th August, 2016).
- Media Coverage of our Group in a local daily: <http://aamarkatha.com/?p=1121#.WMzJSszEghE.whatsapp>
- Won **3rd Prize in Coding Competition** at Techniche 2012 (IIT Guwahati Technical Fest Coding Event).
- Attended NASSCOM Product Conclave-2016 as Student Researcher of ForkIT
- Rank of **3** in Master Of Technology and Rank of **7** in Bachelor Of Technology.
- Secured 10/10 SGPA in M.Tech (3rd & 4th Semester)
- Secured 10/10 SGPA in B.Tech (6th, 7th & 8th Semester)
- GATE Qualified (2016) **Gate Score : 488 (Rank: 4370)**
- GATE Qualified (2015) **Gate Score : 441 (Rank: 6675)**
- Recipient of GATE Scholarship (2014) **Gate Score : 582 (Rank: 2139)**
- Passed 'A' level examination of National Cadet Corps (NCC).

PROFESSIONAL SERVICES	<ul style="list-style-type: none"> • International Conference on Natural Language Processing (ICON-2020) (Reviewer) • IEEE International Conference on Advanced Networks and Telecommunications Systems (IEEE ANTS 2020) (Reviewer) • International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT 2020) (Reviewer) • AAAI Workshop on Combating Online Hostile Posts in Regional Languages during Emergency Situation (CONSTRAINT 2021) (Web Chair Reviewer) • SDM 2021: SIAM International Conference on Data Mining (SIAM 2020) (Reviewer). • ACM International Conference on Information and Knowledge Management (CIKM 2020) (Reviewer). • PAKDD Workshop on Data Science for Fake News (DSFN 2020) (Web Chair and Reviewer). • Wiley Journal on Expert Systems (Reviewer). • IEEE/WIC/ACM International Conference on Web Intelligence (WI 2019) (External Reviewer). • International Conference on Secure Knowledge Management in Artificial Intelligence Era (SKM 2019) (External Reviewer).
EVENTS & WORKSHOPS ATTENDED	<ul style="list-style-type: none"> • Amazon Research Days, Bangalore (2019) • Academic Research Summit 2019 on Data Science and AI, IIT Madras, Chennai (2019) • ACM India Joint International Conference on Data Science and Management of Data (CoDS-COMAD 2019) • Winter School on Artificial Intelligence, IIIT Delhi (2019) • Amazon Research Days, Bangalore (2018) • Young Scientist Conference at India International Science Festival (2018) • Workshop on Complex and Social Networks, IIT Kharagpur (2017) • NASSCOM Product Conclave, Bangalore (2016)
TECHNICAL SKILLS	<p>Strongest Areas - Social Network Analysis, Data Mining, Applied Machine Learning, Web Mining, Natural Language Processing & System Programming, Web Technology.</p> <p>Languages - Python, Java, PHP, Dart, C++, UNIX Shell, HTML, CSS, JS, Ajax, Perl</p> <p>Frameworks - Twitter API Clients, NLTK, Sklearn, Gensim, Django, Flask, Flutter</p> <p>Tools - Git, Android Studio, Adobe Photoshop, JUnit, L^AT_EX</p> <p>Databases - Firebase, MySQL, SQLite, MongoDB</p>
PERSONAL DETAILS	<p>Date of Birth: 12th September, 1991</p> <p>Gender: Male</p> <p>Nationality: Indian</p>
REFERENCES	<p>Dr. Tanmoy Chakraborty <tanmoy@iiitd.ac.in>, Asst. Professor, Dept. of CSE, IIIT Delhi</p> <p>Dr. Sandip Chakraborty <sandipc@cse.iitkgp.ac.in>, Asst. Professor, Dept. of CSE, IIT Kharagpur</p> <p>Prof. Subrata Nandi <subrata.nandi@cse.nitdgp.ac.in>, Professor, Dept. of CSE, NIT Durgapur</p> <p>Dr. Bibhash Sen <bibhash.sen@cse.nitdgp.ac.in>, Assoc. Professor, Dept. of CSE, NIT Durgapur</p>