

# Hridoy Sankar Dutta

hridoyd@iiitd.ac.in / hridaydutta123@gmail.com • (+91)-8638189794 / (+91)-8135002680 • #3-E, Pink Enclave, Paltan Bazar, Behind Hotel Starline, Guwahati, Assam, India - 781008

## LINKS

**Website:** <https://hridaydutta123.github.io>  
**Github:** <https://github.com/hridaydutta123/>  
**DBLP:** [http://dblp.uni-trier.de/pers/hd/d/Dutta:Hridoy\\_Sankar](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** January, 2021 - Present  
*Mentored by Dr. Richard Clayton*  
*Director, 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**, Udit Arora, Tanmoy Chakraborty. BlackDB – A database of blackmarket-driven collusive entities in online media.
- **Hridoy Sankar Dutta**, Siva Charan Reddy Gangireddy, Tanmoy Chakraborty. Collusion on the web: A Survey.
- 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.

ACCEPTED /  
PUBLISHED  
PAPERS

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

\* - Equal contribution

- **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 2020)*. (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.

OTHER  
EXPERIENCES

#### 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

May 2016 - July 2016

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.

#### 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).

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