

Research Area

- Personalized Information Retrieval
- Contextual Recommendation
- Information Retrieval from Noisy Texts
- Machine Learning

Publications

- **Anirban Chakraborty**, Debasis Ganguly, Annalina Caputo, and Gareth J. F. Jones. Kernel Density Estimation based Factored Relevance Model for Multi-Contextual Point-of-Interest Recommendation. *Springer Inf. Retr. J.*, 2022. DOI: <https://doi.org/10.1007/s10791-021-09400-9>
- **Anirban Chakraborty**, Debasis Ganguly, and Owen Conlan. Retrievability based Document Selection for Relevance Feedback with Automatically Generated Query Variants. *ACM CIKM 2020*. DOI: <https://doi.org/10.1145/3340531.3412032>
- **Anirban Chakraborty**, Debasis Ganguly, and Owen Conlan. Relevance Models for Multi-Contextual Appropriateness in Point-of-Interest Recommendation. *ACM SIGIR 2020*. DOI: <https://doi.org/10.1145/3397271.3401197>
- **Anirban Chakraborty**, Debasis Ganguly, Annalina Caputo, and Séamus Lawless. A Factored Relevance Model for Contextual Point-of-Interest Recommendation. *ACM SIGIR ICTIR 2019*. DOI: <https://doi.org/10.1145/3341981.3344230>
- Mostafa Bayomi, Annalina Caputo, Matthew Nicholson, **Anirban Chakraborty**, and Séamus Lawless. CoRE: a cold-start resistant and extensible recommender system. *ACM SAC 2019*. DOI: <https://doi.org/10.1145/3297280.3297601>
- **Anirban Chakraborty**. Enhanced Contextual Recommendation using Social Media Data. *ACM SIGIR 2018*. DOI: <https://doi.org/10.1145/3209978.3210223>
- **Anirban Chakraborty**. Exploring Search Behaviour in Microblogs. *FDIA 2017* (BCS IRSG). DOI: <https://doi.org/10.14236/ewic/FDIA2017.8>
- Kripabandhu Ghosh, **Anirban Chakraborty**, Swapam Kumar Parui, and Prasenjit Majumder. Improving Information Retrieval Performance on OCR'd Text in the Absence of Clean Text Ground Truth. *Elsevier Inf. Process. Manag. (IP&M)*, 2016. DOI: <https://doi.org/10.1016/j.ipm.2016.03.006>
- **Anirban Chakraborty**, Kripabandhu Ghosh, and Swapam Kumar Parui. Retrieval from Noisy E-Discovery Corpus in the Absence of Training Data. *ACM SIGIR 2015*. DOI: <https://doi.org/10.1145/2766462.2767828>
- **Anirban Chakraborty**, Kripabandhu Ghosh, and Swapam Kumar Parui. Building Test Collection from Old IR Literature. *FIRE 2014* (ACM). DOI: <https://doi.org/10.1145/2824864.2824869>
- **Anirban Chakraborty**, Kripabandhu Ghosh, and Utpal Roy. A Word Association Based Approach for Improving Retrieval Performance from Noisy OCR'd Text. *KDIR 2014* (SCITEPRESS). DOI: <https://doi.org/10.5220/0005157304500456>
- S. Baral, S. Bhattacharya, **A. Chakraborty**, U. Bhattacharya, and S. K. Parui. A Machine Learning Approach to Detection of Core Region of Online Handwritten Bangla Word Samples. *ICFHR 2014* (IEEE). DOI: <https://doi.org/10.1109/ICFHR.2014.83>
- Kripabandhu Ghosh, **Anirban Chakraborty**, and Swapam Kumar Parui. Improving IR performance from OCR'd text using cooccurrence. *FIRE 2013* (ACM). DOI: <https://doi.org/10.1145/2701336.2701648>

Research Experiences

- Currently working on a NIHR funded research project 'Artificial Intelligence and Multimorbidity: Clustering in Individuals, Space and Clinical Context' (AIM-CISC) as a postdoctoral researcher in the School of Informatics at the University of Edinburgh, Scotland (since Mar 2022). My current focus is on understanding clusters of long term conditions (multimorbidity) in patients using machine learning.

- Worked on an EU Horizon 2020 funded research project ‘Helios’ as a postdoc researcher at ADAPT Centre, Trinity College Dublin, exploring ways of learning users’ activities, and contexts for making personalized connections, and content sharing over (decentralized) social networks (Jan 2021 - Feb 2022).
- Successfully defended my PhD (Mar 2021) on exploring Information Retrieval based approaches for contextual recommendation, with a particular focus to improve precision at top ranks, at Trinity College Dublin, Ireland. I started my PhD under the supervision of the late Prof. Séamus (Shay) Lawless. Later I was supervised by Prof. Owen Conlan. E-thesis available at <http://www.tara.tcd.ie/handle/2262/95877>.
- Was part of the ADAPT Centre research team led by Prof. Séamus (Shay) Lawless where we developed a cold-start resistant and extensible hotel recommender system in collaboration with Ryanair (publication at SAC ’19).
- Worked in a Dept. of Electronics & Information Technology (DeitY), Govt. of India funded research project namely “Development of Online Handwriting Recognition System for Indian Languages (OHWR) - Phase II - Development of an application and improvement of engine performance” under the supervision of Prof. Swapan Kumar Parui, at Indian Statistical Institute, Kolkata, India (Nov 2012 - Mar 2016).
- Successfully defended my M.Sc. dissertation “An Approach to Improve Information Retrieval Performance in the Context of Retrieval from Indic Script (Bengali) OCR’d Text” (2012). Completed this work under the supervision of Prof. Swapan Kumar Parui, at Information Retrieval Lab., CVPR Unit, Indian Statistical Institute, Kolkata, India. The problem was known as RISOT task of Forum for Information Retrieval Evaluation (FIRE 2011).

Tools, Data, etc.

- As a part of ‘Helios’, contributed in developing an Android app/module (<https://github.com/helios-h2020/h.extension-HeliosSmartEnvironments-OrganicSocialGraph>), which implements the concept of an organic social graph based on mobile phone sensors (Bluetooth). This can be used to learn users’ physical activity patterns such as detecting users who frequently appear in each other’s close proximity.
- Developed a tweet search tool (<http://anistudy.adaptcentre.ie/tweetsearch/home.jsp>) in Java and conducted a task-based user study to investigate the search behaviour of users when looking for opinions present in microblogs (tweets). Also created a small query log data set of the user study (publication at FDIA ’17).
- Created a small test collection from old IR literature (archived writings of IR stalwarts). Following the Cranfield tradition, this collection is comprised of a set of documents that are created in text format from the scanned and OCR’d version, along with a set of expert queries and their relevance assessments. This collection would expect researchers to run retrieval experiments on the erroneous collection without the scope of error modeling, which would invite new research ideas (publication at FIRE ’14).
- Successfully developed a mathematical tool named “Anirban’s Calculator” (programmed in C), to employ a number of numerical methods during my B.Sc. Honours (2010).
- Successfully completed a training program on “Development of a Matrix Tool” in MS VB 6.0, and MS VC++ 6.0 platform at Variable Energy Cyclotron Centre, DAE, Govt. of India, Kolkata, India.

Teaching Experiences

- *Co-supervisor*, Greg Dawson (Masters student), University of Glasgow (2021-22), Master’s thesis on aspect driven contextual recommendation.
- *Co-supervisor*, Sinéad Dickson (MAI student), Trinity College Dublin (2018-19), Master’s thesis: Twitter as an Alternative Review Site.
- *Co-supervisor*, two research trainees worked in Helios project, Trinity College Dublin (2021-22).
- *Lab*, Information Retrieval and Web Search, Trinity College Dublin (2017-18, 2018-19).
- *Lab*, Algorithms & Data Structures (using C/Java), Trinity College Dublin (Jan ’17 - Mar ’17, Oct ’17 - Dec ’17, Jan ’18 - Mar ’18, Sep ’18 - Nov ’18, Sep ’19 - Nov ’19).
- *Lab*, Computer Engineering 1 (C++), Trinity College Dublin (Mar ’18 - Apr ’18, Jan ’19 - Apr ’19, Jan ’20 - Apr ’20).
- *Lab*, Programming Project with Processing, Trinity College Dublin (Jan ’17 - Mar ’17, Feb ’18).

Academic Achievements

- Receiving NIHR AIM-CISC postdoc fellowship from Mar 2022 – till date.
- Received EU Horizon 2020 project (Helios) fellowship (postdoc) from Jan 2021 – Feb 2022.
- Received ACM SIGIR Student Travel Grant to attend CIKM 2020.
- Received ACM SIGIR Student Travel Grant to attend SIGIR 2020.
- Received ACM SIGIR Student Travel Grant to attend ICTIR 2019 in Santa Clara, CA, USA.
- Received ACM SIGIR Student Travel Grant to attend SIGIR 2018 in Ann Arbor, MI, USA.

- Received ADAPT Centre (Science Foundation Ireland) travel grant to attend ESSIR 2017 in Barcelona, Spain.
- Received ADAPT Centre (Science Foundation Ireland), TCD PhD scholarship from Oct 2016 – Dec 2020.
- Received ACM SIGIR Student Travel Grant to attend SIGIR 2015 in Santiago, Chile.

Academic Activities

- *Reviewer*,
 - International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR)
 - ACM Transactions on Knowledge Discovery from Data (TKDD)
 - ACM Transactions on Asian and Low-Resource Language Information Processing (TALLIP)
 - ACM IKDD Joint International Conference on Data Science & Management of Data (CODS-COMAD)
 - Workshop on the Evaluation of Personalisation in Information Retrieval (WEPIR), ACM CHIIR
 - ACM Conference on Hypertext and Social Media (HT)
 - Springer SN Computer Science
 - Forum for Information Retrieval Evaluation (FIRE)
- *Program Committee member*, ACM SIGIR 2023.
- *Participant*, European Summer School in Information Retrieval (ESSIR) 2017.
- *Organizing Committee member*, ACM Conference on Hypertext and Social Media (HT) 2021.
- *Organizing/Program Committee member*, Forum for Information Retrieval Evaluation (FIRE) since 2012.

Employment

Post-doctoral Research Associate, University of Edinburgh, UK.
 Post-doctoral Research Associate, Trinity College Dublin, Ireland.
 Research/Project Fellow, Indian Statistical Institute, Kolkata, India.

Mar 2022 – till date
 Jan 2021 – Feb 2022
 Nov 2012 – Mar 2016

Education

Ph.D. in Computer Science, Trinity College Dublin, Ireland.

Oct 2016 – Mar 2021

Thesis: “Revisiting Contextual Recommendation from an Information Retrieval Standpoint”

Supervisor(s): The late Prof. Séamus (Shay) Lawless, Prof. Owen Conlan

Examiners: Prof. Jaap Kamps and Prof. Declan O'Sullivan

Thesis link: <http://www.tara.tcd.ie/handle/2262/95877>

M.Sc. in Computer Science, Visva-Bharati, Santiniketan, India.

2010 – 2012

B.Sc. (Honours) in Computer Science, University of Calcutta, India.

2007 – 2010

References

- Prof. Owen Conlan, Professor, Trinity College Dublin, Ireland.
email: Owen.Conlan@tcd.ie
- Dr. Debasis Ganguly, Lecturer, University of Glasgow, Scotland.
email: Debasis.Ganguly@glasgow.ac.uk
- Prof. Gareth J. F. Jones, Professor, Dublin City University, Ireland.
email: gareth.jones@dcu.ie
- Dr. Sohan Seth, Lead Data Scientist, University of Edinburgh, Scotland.
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