

Avijit Ghosh

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[Social Networks](#) [Algorithm Auditing](#) [Natural Language Processing](#) [Human Computer Interaction](#) [Usable Privacy](#)

Education

Northeastern University

Ph.D. candidate in Computer Science

Indian Institute of Technology (IIT) Kharagpur

B.Tech. in Chemical Engineering, M.Tech in Financial Engineering, Minor in Computer Science

Boston, MA

2019 - Present

Kharagpur, India

2014 - 2019

Experience

Northeastern University

Research Assistant at Khoury College of Computer Sciences | Advisor: Alan Mislove

Boston, MA

Sep 2019 - Present

- Investigated the ad reach and spend information obtained from Facebook's ad transparency feature and the personal targeting dataset from Propublica's Facebook ad dataset, aided with controlled ad placement experiments.
- Demonstrated that advertisers with higher budgets use more privacy sensitive targeting techniques like PII or Lookalike audience than low budget advertisers. Findings published and presented at [IEEE ConPro 2019](#).

LIG, University of Grenoble Alps

Visiting Researcher | Advisor: Oana Goga

Grenoble, France

May 2019 - July 2019

- Study of how news companies promote different items on social media, investigating possible patterns of differential information spreading using both posts and ads. Preparing a manuscript to be submitted at [WWW'20](#).
- During the course of the project, we discovered and reported an exposed access token bug to [Facebook Bug Bounty](#).

Xerox Research Centre

Research Intern

Bangalore, India

May 2017 - July 2017

- Implemented XTrack, a Smart Vehicle Tracking and Battery usage minimizing Algorithm, using BLE to distribute GPS information.
- Proposed a method for Uber-like Surge Price Prediction using Spatio-Temporal techniques like the Neural Hawkes and Recurrent Marked Temporal Point Process. Awarded the title of [Best Internship Project](#).

Google Summer of Code

GSoc Student at OpenMRS

Remote

Apr 2016 - Aug 2016

- OpenMRS is an Opensource Medical Record System geared towards developing countries. I replaced the HTML XForms system used in the OpenMRS android client with native generated forms using the Forms REST Api and added offline form saving.
- Configured Travis CI to automatically build and push the apk to play store. Overall, contributed [100K lines of code](#).

IIT Kharagpur

Undergraduate Researcher | Advisors: Niloy Ganguly, Saptarshi Ghosh

Kharagpur, India

2014 - 2019

- Vector space representation of organic molecules to predict aqueous solubility (accurate upto $0.78 R^2$) using machine learning techniques.
- Automated Extraction of Catchwords from Legal Documents using a novel NER based tagger to help categorize lengthy legal texts.
- Automatically position user comments against relevant news article paragraphs. Presented at [ECIR 2019](#).
- Data Driven Disaster Response Systems using Social Media (at the CNERG Lab):
 - Project: Savitr - A realtime location extraction system for disaster management using twitter. Presented at [WWW-SMERP 2018](#).
 - Project: Classification and Summarization of tweets during a disaster event, presented at [IBM Day 2016](#).

Publications

Analyzing Political Advertisers' Use of Facebook's Targeting Features

[Avijit Ghosh](#), [Giridhari Venkatadri](#), [Alan Mislove](#)

Conpro '19

San Francisco, California

Public Sphere 2.0: Targeted Commenting in Online News Media

[Ankan Mullick](#), [Sayan Ghosh*](#), [Ritam Dutt*](#), [Avijit Ghosh*](#), [Abhijnan Chakrabarty](#) *equal contribution

ECIR '19

Cologne, Germany

SAVITR: A System for Real-time Location Extraction from Microblogs during Emergencies

[Ritam Dutt](#), [Kaustubh Hiware](#), [Avijit Ghosh](#), [Rameshwar Bhaskaran](#)

WWW-SMERP '18

Lyon, France

Molecule2Vec: Vector Space Representation of Organic Molecules for prediction of properties using

Deep Neural networks [oral abstract]

[Avijit Ghosh](#), [Debasis Sarkar](#)

EUCHEMS '18

Liverpool, UK

WebSelect: A Research Prototype for Optimizing Ad Exposures based on Network Structure

[Avijit Ghosh](#), [Agam Gupta](#), [Divya Sharma](#), [Uttam Sarkar](#)

WITS '16

Dublin, Ireland

Awards & Grants

2019 **Winner**, Best Poster Award

ECIR'19

2019 **Winner**, Institute Order of Merit - Technology

IIT Kharagpur

2018 **Winner**, SGSIS Institute Challenge Grant - Worth INR 1 Million

IIT Kharagpur

Skills

Languages Python, Java, C, R, Bash, SQL, HTML/CSS, JavaScript, Matlab
Frameworks Git, Travis, Keras, TensorFlow, Docker, Android