

SMITA GHOSH

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PROFESSIONAL SUMMARY

Assistant Professor of Computer Science in the Department of Mathematics and Computer Science at Santa Clara University since September of 2020, teaching Introductory Computer Science courses and Data Science courses for lower division and upper division undergraduates. Actively participate in continued learning through conferences and professional research. Believer of Computer Science for Social Good. Passionate to inspire students to see the beautiful amalgamation of theory and application.

EDUCATION

PhD in Computer Science

May 2020

University of Texas at Dallas, United States

Dissertation Title: Composed Influence Maximization in Social Networks

Advisor: Dr. Weili(Lily)Wu

Masters in Computer Science

May 2017

University of Texas at Dallas, United States

Thesis Title: Cross-Domain Data Fusion for Disaster Detection

Committee: Dr. Weili Wu, Dr. Latifur Khan, Dr. B.Prabhakaran

Bachelor of Technology in Computer Science and Engineering

July 2015

West Bengal University of Technology, India

RESEARCH INTERESTS

Social Network Analysis: Composed Influence Maximization, Information Diffusion, Hyper graphs, Data Analysis, Machine Learning in Social Networks.

Data Science: Deep Learning, Data Mining, Trustworthy AI, Sentiment Analysis, Ethics

RESEARCH EXPERIENCE

EPIC (Ethical, Pragmatic, and Intelligent Computing) Lab

September 2021 - Present

Santa Clara University, US

Collaborate with faculty and students on Data Science projects targeted towards social good.

Data Communication and Data Management Lab

August 2017- Present

Department of Computer Science, University of Texas at Dallas, US

- Collaborate with faculty and fellow graduate students to design algorithms for composed influence maximization in social networks.
- Design and execute algorithms for analyzing group influence patterns in social networks.

Master's Thesis Student

Department of Computer Science, University of Texas at Dallas, US

January 2016–
November 2016

Aggregating useful data on natural disasters from different domain sources (such as Bing and Twitter) for proper monitoring and mitigation of social disasters using Big Data and Name-Entity Recognition techniques.

Undergraduate Research Assistant

Department of Computer Science, Calcutta University, India

May 2014-April
2015

- Collaborated with faculty and fellow undergraduate students to design a new service discovery approach for community-based web
- Worked on a designing a framework for health facilities for organizing remote health care for patients.

TEACHING & MENTORING EXPERIENCE**Assistant Professor**

Department of Mathematics and Computer Science, Santa Clara University, US

September 2020 -
Present

- Teach upper division Data Science courses: Web and Data Mining, Data Science and Applied Machine Learning
- Teach Introductory Computer Science Courses such as Intro to Computer Science using C++ and Data Structures

Instructor

Department of Computer Science, University of Texas at Dallas, US

May – August
2019

Prepared lectures and class activities focusing on basic programming concepts using JAVA and Processing IDE to Non-CS majors for course titled ‘Computer Science for Non-Majors’

Teaching Assistant

Department of Computer Science, University of Texas at Dallas, US

- Database Systems (Undergraduate)
- Database Design (Graduate)
- Securing the Cloud (Special Topic in CS, Graduate)
- Algorithmic Aspects in Telecommunication Networks (Graduate)

Fall 2017
Spring 2018 –Spring
2020
Spring 2018
Fall 2018

Project Mentor

Summer Camp organized by Chinese Association of Science and Technology at University of Texas at Dallas

- ‘Dermatologist Level Skin Cancer Image Classification’
- ‘Flash of an Image’
- ‘Comparison of Machine Learning and Deep Learning in Sentiment Analysis of Twitter Data’.

June–July2019
August2018–
February2019
June – July 2018

PUBLICATIONS

Navid Shaghghi, Maria Joseph Israel, **Smita Ghosh**, Saikat Mondal, Anindita Mondal Abhishek Biswas, “**ClassRoute: Bridging the Digital Academic-Content Divide**”, Online Teaching for Mobile Education, OT4ME (2021) [In Press]

Navid Shaghghi, **Smita Ghosh**, Fatima Ali, Abdul Basit Ali, “**An English to Urdu Educational Video Translation Pipeline to Reinforce Mother-Tongue Based Learning**”, World Congress on Services (SERVICES) 2021 [In Press]

Navid Shaghghi, **Smita Ghosh**, Raghav Kapoor, “**An English to Punjabi Educational Video Translation Pipeline for Supporting Punjabi Mother-Tongue Education**, IEEE Global Humanitarian Technology Conference (GHTC) 2021 [In Press]

Navid Shaghghi, Andres Mauricio Calle, Juan Manuel Zuluaga Fernandez, Mubashir Hussain, Yash Kamdar, and **Smita Ghosh** (2021) **“Twitter Sentiment Analysis and Political Approval Ratings for Situational Awareness**, IEEE CogSIMA 2021

Jianming Zhu, **Smita Ghosh**, Weili Wu, Chuangen Gao,(2021),**“Non-submodular model for group profit maximization problem in social networks”**,In Proceedings of Computational Social Networks

Smita Ghosh, (2020), “Finding User's Sharing Potential (USP) for Monitoring Fake News on Online Social Network”, Poster presented at EAI Inteta in 2020

Qiufen Ni, **Smita Ghosh**, Chuanhe Huang, Weili Wu, Rong Jin, (2020), **“Discount allocation for cost minimization in online social networks”**, Journal of Combinatorial Optimization

Jianming Zhu,**Smita Ghosh**, Weili Wu,(2020) **“Robust rumor blocking problem with uncertain rumor sources in social networks”**, In Proceedings of World Wide Web

Jianming Zhu,**Smita Ghosh**,Weili Wu,Chuangeng Gao,(2019),**“Profit Maximization under Group Influence Model in Social Networks”**,In Proceedings of in 8th International Conference on Computational Data & Social Networks (CSoNet2019)

Jianming Zhu, **Smita Ghosh**, Junlei Zhu, Weili Wu ,(2019) **“Near-optimal Convergent Approach for Composed Influence Maximization Problem in Social Networks”**, In Proceedings of IEEE Access

JianmingZhu,**Smita Ghosh**, Weili Wu,(2019)**“Group Influence Maximization Problem in Social Networks”**,In Proceedings of IEEE Transactions on Computational Social Systems.

Chuangeng Gao,Shuyang Gu,Ruiqi Yang, Hongwei Du, **Smita Ghosh**, Hua Wang,(2019)**“Robust Profit Maximization with Double Sandwich Algorithms in Social Networks”**,In proceedings of 39th IEEE International Conference on Distributed Computing Systems.

Smita Ghosh, Jianming Zhu, Weili Wu, (2019), **“Composed Influence Maximization in Social Networks”**, In Ding-Zhu Du, Panos M. Pardalos, Zhao Zhang, editors, Nonlinear Combinatorial Optimization, Springer

Jianming Zhu, Shuyue Liu, **Smita Ghosh**, (2019), **“Model and algorithm of routes planning for emergency relief distribution in disaster management with disaster information update”**, Journal of Combinatorial Optimization

Jianming Zhu, Junlei Zhu,**Smita Ghosh**,Weili Wu,JingYuan,(2018),**“Social Influence Maximization in Hypergraphin Social Networks”**,IEEE Transactions on Network Science and Engineering,2018

Adrija Bhattacharya,**Smita Ghosh**,Debarun Das,Sankhayan Choudhury,(2016),**“A New Service Discovery Approach for Community-Based Web”**,Advanced Computing and Systems for Security

TECHNICALSKILLS

- Computer Languages: Python, R, Java, C, C++, SQL,PL/SQL
- Web-Technologies: JSP, JavaScript, HTML, CSS
- Database: Oracle, MySQL, NoSQL
- Operating Systems : Windows
- IDE: NetBeans, Eclipse, PL/SQL Developer, RStudio, Anaconda Navigator, Processing
- Oracle Forms Developer and Oracle Applications

INDUSTRY EXPERIENCE

Sensata Technologies

May-August 2016

Attleboro, Massachusetts, US

- Worked as a Business Analyst for Logistics Projects on project titled 'ASN Resend Implementation' in Oracle Applications, working with Oracle Applications and Oracle Databases to design the billing report for a customer by querying manufacturing data from the various tables in the system

Orient Infotech Pvt

June 2013

Ltd,

Kolkata, WB, India

- Participated in Hands on training in "Database Management System"

Tata Consultancy Services

June-Aug 2012

Kolkata, WB, India

- Designed a Ticket Management Tool as part of Summer Project using JSP and JAVA technologies

ACADEMIC PROJECTS

Database Design

August – December 2015

- Designed, developed, and tested a sales management database for a home builder company

Machine Learning

August – December 2015

- Tweets Clustering using k-means- clustering similar tweets together, and generating a more concise and organized representation of the raw tweets which will be very useful for many Twitter-based applications

Software Defined Network

January–May 2016

- Intelligent Load Balancer- Developed an Intelligent Load balancer using the POX Controller, which makes flow –balancing decisions based on statistics gathered from interfaces of switches and nodes in the network

Big Data Management and Analytics

August–December 2016

- Negative Recommender System–A system that recommends places that a person will likely not want to go based on previous experiences.

Semantic Web

January–May 2017

- Traffic Violations near School Zones in the County of Maryland from 1998 to 2014– This project used semantic web technologies to analyse the different traffic violations near school zones in Maryland.

R for Data Science

January–May 2019

- Object Identification in Images using CNN –This project involved using R techniques to analyze objects in images.
- IMDB Movie Plot Summarization–This project involved designing a search engine that would summarize a movie's plot and retrieve information based on a query

LEADERSHIP AND TEAM INVOLVEMENT

Officer of Women Who Compute at University of Texas at Dallas	April 2019–May 2020
Project Mentor for a high school student for Science Fair of Texas	August 2018–Feb 2019
Project Mentor for summer camp by CAST	Summer 2018, 2019
Business Analyst for Logistics Projects at Sensata Technologies	May–August 2016
IT Intern at Tata Consultancy Services	May–August 2012
Webco-chair and Registration chair for International Conference on Distributed Computing Systems (ICDCS) 2019 held at University of Texas at Dallas	July 2019
Finance co-chair, Registration chair and Session chair for International Conference on Combinatorial Optimization and Applications (COCOA'20) held at University of Texas at Dallas	December 2020

HONORS AND AWARDS

Computing Research Association for Women (CRA-W) scholarship <ul style="list-style-type: none">Received student travel grant	January 2019
Grace Hopper Celebration Conference Scholarship <ul style="list-style-type: none">Scholarship awarded by University of Texas at Dallas.	September 2018 September 2019
Received Silver Medal for Academic Excellence in the 3rd year of bachelors program in West Bengal University of Technology, India <ul style="list-style-type: none">Stood 2nd out of 120 students with a YGPA of 9.29/10	September 2014

REFERENCES

Dr. Weili Wu
Professor, Department of Computer Science
The University of Texas at Dallas

Email: weiliwu@utdallas.edu
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Dr. Nicholas Tran
Associate Professor, Department of Mathematics
and Computer Science
Santa Clara University

Email: ntran@scu.edu
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