Sangeetha S

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Passionate about researching, learning and implementing new advancements in data science.

WORK EXPERIENCE

Assistant Professor
PSG College of Technology
06/2017 - Present,

Lecturer
PSG Polytechnic College
06/2008 - 05/2017,

CERTIFICATES

Coursera Certificates

- Crash Course on Python by Google
- Neural Network from Scratch in Tensorflow
- Neural Network and Deep Learning
- Data Privacy Fundamentals
- How to write and publish a Scientific Paper
- Security and Privacy for Big Data

NPTEL Certificates

- Big Data Computing
- Practical Machine Learning with Tensorflow
- The Joy of Computing using Python

PSG One year certification on Data Science

EDUCATION

PhD – Expecting Oral Board Examination
PSG College of Technology
06/2017 - Present,

M.E Computer Science and Engineering
PSG College of Technology
06/2012 - 05/2015,

B.E Computer Science and Engineering
Maharaja Engineering College
06/2003 - 05/2007,

SKILLS

Python Programming | Differential Privacy | Machine Learning | Deep Learning

HANDS ON EXPERIENCE

- I used python programming language and Google Colab environment for implementing all the publications in peer reviewed journals and international conferences.
- Completed one year exclusive training on “Data Science” by industry experts and completed mini projects using python.
- Pytorch library was used for training the deep learning model and implemented transfer learning for effective results.
- Extensively leveraged python libraries like pandas, scikit learn, matplotlib, and numpy for the implementation of research work.

RECENT PUBLICATIONS

Differential privacy proposed by Microsoft Research is implemented and improved utility is proved theoretically and with the experimental results.

1. **Sangeetha Selvaraj**, G Sudha Sadasivam, R.Latha, Utility-Based Differentially Private Recommendation System, Big Data, Volume: 9 Issue 3, pp. 203-218., 2021. (**SCIE, Scopus, Impact factor: 3.644**).

   Extended Google research paper and published a bloom based recommender.

2. **Sangeetha S.**, Sudha Sadasivam G, D.T. Goutham, Ayush Srikanth, J.Vinith, Privacy Preserving Bloom Recommender System, International Conference on Computer Communication and Informatics (ICCCI - 2021), IEEE Explore, pp.1-6, April 2021 (**Scopus**).

   A novel deep learning based neural network model with enforced privacy is designed with differential privacy, and performance is proved theoretically and with the experimental results.

3. **Sangeetha Selvaraj**, Sudha Sadasivam

Gangadharan, Privacy preserving hybrid recommender system based on deep learning, Turkish Journal of Electrical Engineering & Computer Sciences, Accepted for publication (In Press) (**SCIE, Scopus, Impact factor: 0.806**).

CONFERENCE PRESENTATION

A novel hybrid approach to blend cryptography and differential privacy was proposed and performance is analyzed with experimental results.

1. **S.Sangeetha**, G.Sudha Sadasivam, V.Nithesh, K.Mounish, Confluence of Cryptography and Differential Privacy: A Hybrid Approach for Privacy Preserving Collabortaive Filtering, International Conference on Paradigms of Communication, Computing and Data Sciences (PCCDS - 2021), May 07-09, 2021, National Institute of Technology, Kurukshetra and Soft Computing Research Society (**Scopus**).

2. **S.Sangeetha,** K.Anitha Kumari, M.Shrinika, P.Sujaybharath, S.Muhil Varsini, K.Ajith Kumar, Ensuring location privacy in crowdsensing system using block chain, Virtual International Conference on Futuristic Communication and Network Technologies, Vellore Institute of Technology, Chennai (**Scopus)**.

BOOK CHAPTER

State of the art privacy preserving mechanisms are evaluated and reviewed

1. **S.Sangeetha,** G Sudha Sadasivam, Privacy of Big Data : A Review, In: Dehghantanha A., Choo KK. (eds), Handbook of Bigdata and IoT Security, Springer, Cham. pp. 5-23, 2019.

2. **Sangeetha S**., Sudha Sadasivam G., Nithesh V., Mounish K. (2022) Confluence of Cryptography and Differential Privacy: A Hybrid Approach for Privacy Preserving Collaborative Filtering. In: Dua M., Jain A.K., Yadav A., Kumar N., Siarry P. (eds) Proceedings of the International Conference on Paradigms of Communication, Computing and Data Sciences. Algorithms for Intelligent Systems. Springer, Singapore.

IN PRESS PAPER

1. S.Sangeetha a , G.Sudha Sadasivamb , Ayush Srikanth Differentially private model release for healthcare applications, International Journal Of Computers And Applications. **(Scopus)**

PROJECT EXPO

Our project titled "Privacy in Matrix Factorization" was selected for National Science and Technology Fair 2019 held at Coddisia, Coimbatore. Participated in the expo along with the students.

SUBJECT EXPERTISE

Handled the following subjects for undergraduate and postgraduate students

- Data mining
- Python programming
- Big data analytics
- Data Structures
- Information storage and management
- object oriented modeling and design

REPONSIBITIES HELD

As faculty performed the following works other than teaching.

- Tutorship for students
- Time table Incharge
- Department Library Incharge
- Department Association faculty advisor
- Accreditation and ISO works
- Exam question paper setting, invigilation and evaluation work
- UG, PG academic, and industry project guidance for students
- Syllabus Preparation
- Tech Bulletin and Harbinger Report Preperation

ACHIEVEMENTS

- Published papers in two SCIE indexed journals.
- Reviewed papers in SCIE indexed journal and scopus conferences.
- Guiding students for consultancy project from Samsung Research.
- Presented and published papers in scopus and peer reviewed conferences and journals.
- Organized a national level conference and numerous workshops for student and faculty training.
- Actively mentored, monitored and guided multiple students.