Suman Mahapatra

Email	sumancse_r@isical.ac.in, suman.maha.cs@gmail.com
Contact Number	+91-9681426203
Web	https://suman-maha.github.io/portfolio/
Date of Birth	August 14, 1990

Present Position

Senior Research Fellow

Machine Intelligence Unit, Indian Statistical Institute, Kolkata, India - 700108

Education

2024

Ph.D. in Computer Science - **Indian Statistical Institute**

Thesis: **Nuclei Segmentation and Color Normalization of Histological Images: Rough-Fuzzy Circular Clustering to Deep Generative Modeling**

Supervisor: Professor Pradipta Maji

Thesis defended on December 17, 2024

2015

Master of Technology - **University of Kalyani**

Thesis: Design and Implementation of Authentication Technique in Higher Region of Convergence of Z Transformation

Supervisor: Professor Jyotsna Kumar Mandal

Marks - **89.2%**, Grade - First Class

2013

Bachelor of Engineering - **The University of Burdwan**

Computer Science and Engineering

Marks - **82.7%**, Grade - First Class with Honours

2008

Higher Secondary Examination (12th Class)

West Bengal Council of Higher Secondary Education

Marks – **77%**, Grade - First Division

2006

Secondary Examination (10th Class)

West Bengal Board of Secondary Education

Marks - **90.5%**, Grade - First Division

Work Experience

July 2015 - July 2018   Research Fellow

Funded by: Council of Scientific & Industrual Research, Government of India

Awards and Recognition

- **Third Prize** in **11ᵗʰ IDRBT Doctoral Colloquium** for the paper entitled "Color Normalization of Histological Images Using Rough-Fuzzy Circular Clustering", December 7-8, 2021.
- **All India Rank 259** in **Engineering Sciences** under **Council of Scientific & Industrial Research (CSIR)** fellowship scheme, 2014.

Publications

International Journal Papers

- **Suman Mahapatra** and Pradipta Maji, Optimal Transport Driven Asymmetric Image-to-Image Translation for Nuclei Segmentation of Histological Images, in **IEEE Transactions on Artificial Intelligence (under review)**, pp. 1--12, Manuscript ID: TAI-2024-Nov-A-01785.
- **Suman Mahapatra** and Pradipta Maji, Truncated Normal Mixture Prior Based Deep Latent Model for Color Normalization of Histology Images, in **IEEE Transactions on Medical Imaging**, 42(6), pp. 1746--1757, 2023, DOI: 10.1109/TMI.2023.3238425.
- Pradipta Maji and **Suman Mahapatra**, Circular Clustering in Fuzzy Approximation Spaces for Color Normalization of Histological Images, in **IEEE Transactions on Medical Imaging**, 39(5), pp. 1735--1745, 2020, DOI: 10.1109/TMI.2019.2956944.
- Pradipta Maji and **Suman Mahapatra**, Rough-Fuzzy Circular Clustering for Color Normalization of Histological Images, in **Fundamenta Informaticae**, 164(1), pp. 103--117, 2019, DOI: 10.3233/FI-2019-1756.

International Conference Papers

- Jyotsna Kumar Mandal and **Suman Mahapatra**, Z Transformation Based High Payload Authentication Technique with Higher Region of Convergence Value (ZATHRoc), **Proceedings of 2nd International Conference on Computer and Communication Technologies (IC3T2015)**, Hyderabad, India, pp. 529--537, 2015.
- Sukalyan Som, Sayani Sen, **Suman Mahapatra** and Sarbani Palit, A Selective Bitplane Based Encryption of Grayscale Images with Tamper Detection, Localization and Recovery Based on Watermark, **Proceedings of 2nd International Conference on Information Systems Design and Intelligent Applications (INDIA2015)**, Kalyani, India, pp. 793--802, 2015.
- Sukalyan Som, **Suman Mahapatra** and Sayani Sen, A No Reference Image Authentication Scheme Based On Digital Watermark, **Proceedings of 2nd International Conference on Information Systems Design and Intelligent Applications (INDIA2015)**, Kalyani, India, pp. 741--749, 2015.
- **Suman Mahapatra**, Jyotsna Kumar Mandal and Madhumita Sengupta, Authentication in Higher Region of Convergence of Z Transform Domain (AHRocZ), **Proceedings of 2nd International Conference on Information Systems Design and Intelligent Applications (INDIA2015)**, Kalyani, India, pp. 787--795, 2015.

Research Interests

Biomedical Image Analysis, Deep Generative Modeling, Computer Vision, Machine Learning.

Peer Review Activities

- Reviewer for the journals: (i) IEEE Transactions on Medical Imaging, (ii) Pattern Recognition (Elsevier), (iii) Frontiers in Oncology.

- Reviewer for the conferences: (i) International Conference on Pattern Recognition and Machine Intelligence (PReMI) 2023, (ii) International Conference on Data Analytics and Insights (ICDAI) 2023, (iii) International Conference on Pattern Recognition and Machine Intelligence (PReMI) 2021.

Tutorials / Teaching

- Teaching Assistant in the course Computer Vision for Master of Technology (Computer Science): Second year, First semester, offered by Professor Pradipta Maji, Indian Statistical Institute, Kolkata, India, 2024 (Ongoing).
- Teaching Assistant in the course Image Processing for Master of Technology (Computer Science): Second year, Second semester, offered by Professor Pradipta Maji, Indian Statistical Institute, Kolkata, India, 2023.
- Teaching Assistant in the course Programming and Data Structure for Bachelor of Statistics: First year, First semester, offered by Professor Pradipta Maji, Indian Statistical Institute, Kolkata, India, 2019.

Coding/ Technical Skills

Python, PyTorch	C/C++	MATLAB
R	HTML, CSS	Latex

References

1. Professor Pradipta Maji
   Machine Intelligence Unit
   Indian Statistical Institute
   Email: pmaji@isical.ac.in
   Web: https://www.isical.ac.in/~pmaji/

2. Professor Malay Kumar Kundu (Retired)
   Machine Intelligence Unit
   Indian Statistical Institute
   Email: malay@alum.mit.edu
   Web: https://www.isical.ac.in/~malay

3. Professor Pabitra Mitra
   Department of Computer Science & Engineering
   Indian Institute of Technology, Kharagpur
   Email: pabitra@cse.iitkgp.ac.in
   Web: https://cse.iitkgp.ac.in/~pabitra/

4. Professor Sanjoy Kumar Saha
   Department of Computer Science and Engineering
   Jadavpur University
   Email: sks_ju@yahoo.co.in
   Web: https://cse.jadavpuruniversity.in/faculty/sanjoy-kumar-saha

Personal Details

Mother's Name: Kakali Mahapatra	Father's Name: Subimal Mahapatra
Nationality: Indian	Gender: Male
Language Proficiency: English, Bengali, Hindi	

Permanent Address: Maa Bhabani Apartment, 2, Joygopal Das Road, Post Office - Sodepur, District - North 24 Parganas, West Bengal, India, PIN - 700110.

I hereby declare that the information furnished above is true to the best of my knowledge and belief.

Date: January 8, 2025   Suman Mahapatra