PRIYABRATA DASH | 18AT91R11

Biometric Security

EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2025	PHD	IIT Kharagpur	- / -
2017	COMPUTER SCIENCE AND ENGINEERING	National Institute of Technology Durgapur	8.92 / 10
2009	COMPUTER SCIENCE AND ENGINEERING	BPUT ODISHA	8.50 / 10
2005	HSEC	CHSE,ODISHA	78%
2003	HSC	BSE ODISHA	89%

PUBLICATIONS

Journal

Priyabrata Dash , Monalisa Sarma, and Debasis Samanta. "Privacy preserving unique identity generation from multimodal biometric data for privacy and security applications." Security and Privacy. 2024; e375. https://doi.org/10.1002/spy2.375

Priyabrata Dash, Fagul Pandey, Monalisa Sarma, and Debasis Samanta. "Efficient private key generation from iris data for privacy and security applications." Journal of Information Security and Applications 75 (2023): 103506. https://doi.org/10.1016/j.jisa.2023.103506

Priyabrata Dash, Dakshina Ranjan Kisku, Phalguni Gupta, and Jamuna Kanta Sing. "Fast face detection using a unified architecture for unconstrained and infrared face images." Cognitive Systems Research 74 (2022): 18-38. https://doi.org/10.1016/j.cogsys.2022.03.001

Fagul Pandey, Priyabrata Dash, Debasis Samanta, and Monalisa Sarma. "Efficient and provably secure intelligent geometrical method of secret key generation for cryptographic applications." Computers and Electrical Engineering 101 (2022): 107947. https://doi.org/10.1016/j.compeleceng.2022.107947

Fagul Pandey, Priyabrata Dash, and Divyanshi Sinha. "Attack-resistant and efficient cancelable codeword generation using random walk-based methods." Arabian Journal for Science and Engineering 47, no. 2 (2022): 2025-2043. https://doi.org/10.1007/s13369-021-06133-1

Fagul Pandey, Priyabrata Dash, Debasis Samanta, and Monalisa Sarma. " ASRA: Automatic singular value decomposition-based robust fingerprint image alignment." Multimedia Tools and Applications 80 (2021): 15647-15675. https://doi.org/10.1007/s11042-021-10560-5

Priyabrata Dash, Debasis Samanta, Monalisa Sarma, Ashok Kumar Das, and Athanasios V. Vasilakos . "Privacy Preserving Unique Robust and Revocable Passcode Generation from Fingerprint Data." Computer and security, Elseiver (Minor-revision submitted)

Conference

Priyabrata Dash , Debasis Samanta, and Monalisa Sarma. "Unique Identity Generation with Global Features from Multimodal Biometric Data." In Proceedings of the Fourteenth Indian Conference on Computer Vision, Graphics and Image Processing, pp. 1-8. 2023. https://doi.org/10.1145/3627631.3627654

Priyabrata Dash , Monalisa Sarma, and Debasis Samanta. "Fractal-Based Approach to Secure Key Generation from Fingerprint and Iris Biometrics." In International Conference on Computer Vision and Image Processing, pp. 99-111. Cham: Springer Nature Switzerland, 2023. https://doi.org/10.1007/978- 3-031-58181-6-9

Fagul Pandey, Priyabrata Dash, and Divyanshi Sinha. "A random walk-based cancelable biometric template generation." In Innovations in Computational Intelligence and Computer Vision: Proceedings of ICICV 2020, pp. 423-429. Springer Singapore, 2021. https://doi.org/10.1007/978-981-15-6067-5 47

Priyabrata Dash, Dakshina Ranjan Kisku, Jamuna Kanta Sing, and Phalguni Gupta. "Unconstrained and NIR Face Detection with a Robust and Unified Architecture." In Intelligent Computing Theories and Application: 14th International Conference, ICIC 2018, Wuhan, China, August 15-18, 2018, Proceedings, Part I 14, pp. 881-887. Springer International Publishing, 2018. https://doi.org/10.1007/978-3-319-95930-6 88

WORK EXPERIENCES

Gandhi Institute of Engineering and Technology , Odisha 2017-2018

Assistant Professor in Computer Science and Engineering Department
Mentored students, conducted research, and contributed to academic publications while delivering lectures and assisting in departmental activities.

Gandhi Institute of Industrial Technology, Odisha 2010-2014

Lecturer in Computer Science and Engineering Department
Delivered lectures, mentored students, and conducted research, contributing to curriculum development and academic activities within the department.

!Self declared by the student, CDC could not verify the relevant documents

PROJECTS

Indian Institute of Technology Kharagpur, India

Thesis Title: Privacy Preserving Secret Key Generation from Unimodal and Multimodal Biometric Data
Supervisor: Dr. Debasis Samanta, Dr. Monalisa Sarma , Indian Institute of Technology Kharagpur, India

National Institute of Technology, Durgapur, India

Thesis Title: Fast Face Detection using an Unified Architecture: An Approach to unconstrained, Degraded , Infrared ,Crowd Face Images
Supervisor: Dr. Dakshina Ranjan Kisku , National Institute of Technology Durgapur, India

Biju Patnaik University of Technology, Odisha

AAPPSWORLD's HALOWAR: A LAN based multiplayer mission game implemented using BASIC4GL
Supervisor: Dr. Sambit Patro , CUTM , Odisha

AWARDS AND ACHIEVEMENTS

Best student paper award

The International Association for Pattern Recognition (IAPR) Best student paper award at The 8th International Conference on Computer Vision &Image Processing (CVIP-2023)

Microsoft Security Certificate

Microsoft Security, Compliance, and Identity Fundamentals (SC-900) Qualified 4th January 2023

(ISC) Cybersecurity Certificate

Official CC Course Completion Certificate Official (ISC)² Certified in Cybersecurity (CC) Self-Paced Training - 1M Qualified 16th December 2022

Cybersecurity Fundamental Certificate

Cybersecurity Fundamentals Course Completion Certificate by IBM 29th August 2022

Usable Security Certificate

Usable Security Course Completion Certificate by University of Maryland 03rd May 2021

MHRD Scholarship

The Ministry of Education (formerly the Ministry of Human Resource Development) Ph.D. scholarship 2018-2023
GATE M.Tech scholarship : 2015- 2017

POSITIONS OF RESPONSIBILITY

Indian Institute of Technology Kharagpur, India 2019-2020

Teaching Assistant for the course "Software Engineering Lab" and " Programming &Data Structure Lab"
Responsible for mentoring students during lab sessions, and for evaluation of assignments and lab exams.

NPTEL, Indian Institute of Technology Kharagpur, India 2019-2023

Teaching Assistant for the course "Programming in Java"
Responsible for designing and managing the assignments and addressing the queries of the participants for the online course offered by Prof. Debasis Samanta, IIT KGP.

Indian Institute of Technology Kharagpur, India 2020-2023

Role: Mentor
Project Title: Private Key Generation from Multimodal Biometric Data (2020 - 2022)
Project Title: Secured Template Generation for Fingerprint (2021 - 2023)

SKILLS AND EXPERTISE

Research Areas: Biometric Security, Biometric-cryptosystem, Privacy and security, Image Processing, Machine Learning, Multi-party Authentication System Design
Languages: Matlab, Python, C++, C , Java
Frameworks: OpenCV , pyTorch , Scikit-learn
Tools: NIST, Die hard, NFIQ2, AVISPA
Applications: LATEX, DIA , GNU plot
Databases: MySQL, SQLite

COURSEWORK INFORMATION

Ph.D: Machine Learning , Cryptography and Network Security , Research Methodology
M.Tech: Pattern Recognition, Soft Computing, Software Design and Validation, Advanced Topics in Algorithms, Advanced Graph Tehory, Data Mining

EXTRA CURRICULAR ACTIVITIES

Interpersonal Skills: Self-motivatation, Adapatibility, Honesty
Academic Journal Reviewer for Cluster Computing , AJSE (Springer) and Security and Privacy (Wiley)
Mentored and guided students on research projects

!Self declared by the student, CDC could not verify the relevant documents