Shankhya Debnath

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Date of CV: January 22, 2026

Educational Degrees

- **Master of Technology in Printing Engineering & Graphic Communication**
  Institute: Jadavpur University, Kolkata, India
  CGPA: 9.67 (University Gold Medalist)
  Date of Degree: August, 2025
  Master's thesis: Exploring the scope of Optical Density Prediction for Print Quality Assessment: Leveraging Scanners and Machine Learning Models
- **Bachelor of Engineering in Printing Engineering**
  Institute: Jadavpur University, Kolkata, India
  CGPA: 9.19 (University Gold Medalist)
  Date of Degree: 2014
- **Higher Secondary Examination**
  Institute: West Bengal Council of Higher Secondary Education
  Percentage: 91%
  Date of Degree: 2009
- **Indian Certificate of Secondary Education**
  Institute: CISCE
  Percentage: 90.3%
  Date of Degree: 2007

Current Employment

- **Designation:** Head of the Department & Lecturer, Department of Printing Technology
  Organization: Regional Institute of Printing Technology, Kolkata
  Date: July 2017 – Till Date
- **Job Description:**
  - Conducting academic classes, lesson plan development, assessment, and evaluation.
  - Curriculum development and contributing towards accreditation processes.
  - Areas of interest: Color science & management and prepress
- **Additional responsibilities:**
  - Head of the Department: 2025 - Till Date
  - Secretary, Academic Council: 2018 - 2023
  - Institutional Coordinator for NBA Accreditation: 2018 - 2023
  - Convenor, Syllabus Committee for Diploma in Printing Technology, WBSCTVESD: 2020-2023
  - Member, Governing Body: 2019-2023

Past Employment

- **Designation:** Technical Services Executive
  Organization: DIC India Ltd
  Date: 2014 – 2017
- **Job Description:**
  - Conducting trials for conventional and UV sheetfed / print finish products at customer end
  - Support to and resolution of product application related issues
  - Product evaluation against competition
  - Color matching and brand development solutions
  - Establishment of standardized printing protocols pertaining to application of products
  - Assessment of business requirements and development of new products
  - Ensuring assistance, coordination and collaboration between teams to enhance and intensify product placements at customer end
- **Major projects completed:** Part of a team responsible for implementing a high-fidelity printing protocol at a press in India using Naturalith Wakimizu^{TM} from DIC Corporation (Japan) process color inks, to achieve the highest possible CMYK gamut possible.

Publications

1. **Debnath, S.**, & Pal, A. K. (2025). GA-FLOPS: A novel multi-objective genetic algorithm framework for optimizing layouts in print production facility. *International Journal of System Assurance Engineering and Management*. Springer.
2. **Debnath, S.**, & Chatterjee, A. (2025, May). Exploring the scope of deep neural network to predict print densitometry from scanner data. *Neural Computing and Applications*. Springer.
3. **Debnath, S.**, Naskar, S., & Chatterjee, A. (2025, April), "Scanner-Based Optical Density Measurement Using Stacked Ensemble Learning: A Cost-Effective Approach for Print Quality Control." In *3rd International Conference on Computational Intelligence, Data Science and Cloud Computing*. (In-Press). Springer Nature Singapore. Awarded as the **Best Paper**.
4. Mitra, A., & **Debnath, S.** (2024, February), "The impact of UX/UI usability constructs on purchase decisions for mobile food ordering applications in India." In *3rd International Conference on Advanced Computing and Applications* vol 1045, (pp. 227–240). Singapore: Springer Nature Singapore.
5. Mitra, A., & **Debnath, S.** (2023, May). A Set of Usability Constructs and Indicators for UI/UX Research on Mobile Food Ordering Applications in India. In *International Conference on Data Analytics and Insights* (pp. 431-441). Singapore: Springer Nature Singapore.
6. **Debnath, S.**, & Chatterjee, A. (2023). An approach to predict print density using scanner and regression models. *Journal of Print and Media Technology Research*, 12(2), 55-66.
7. **Debnath, S.** (2021). Color Forum: Chasing colors. *Color Research & Application*, 46(2).
8. Biswas, M., Dey, M., **Debnath, S.** (2019). Towards achieving optimum drier/anti-oxidant dosage combination for vegetable oil-based offset ink design. *Popular Plastics & Packaging*, 64(1), 46–47.
9. Biswas, M., Kundu, S., & **Debnath, S.** (2018, September). Tall Oil Rosin: A Substitute for Gum Rosin in Development of Offset Printing Ink. In *NIP & Digital Fabrication Conference* (Vol. 34, pp. 44-48). Society for Imaging Science and Technology.
10. Biswas, M., **Debnath, S.**, Dey, M., Kundu, S., & Bandyopadhyay, A. (2017, November). A study on the factors affecting ink-substrate interactions in maplitho papers. In *NIP & Digital Fabrication Conference* (Vol. 33, pp. 47-53). Society for Imaging Science and Technology.

11. **Debnath, S.** (2015, January). Halftone structure analysis for classifying print processes. In *NIP & Digital Fabrication Conference* (Vol. 31, pp. 471-475). Society for Imaging Science and Technology.

12. **Debnath, S.**, & Bagchi, J. (2014, January). Analysing Banding Features for Classifying Print Processes using Artificial Neural Networks. In *NIP & Digital Fabrication Conference* (Vol. 30, pp. 281-288). Society for Imaging Science and Technology.

Peer-Review

1. **Reviewer:** Signal, Image and Video Processing, 2025, Springer
2. **Reviewer:** Quantum Machine Intelligence, 2025, Springer Nature
3. **Reviewer:** Discover Artificial Intelligence, 2025 & 2026, Springer Nature
4. **Reviewer:** Scientific Reports, 2025, Nature
5. **Reviewer:** Computational and mathematical organization theory 2024 (Springer Nature)
6. **Reviewer:** First Analytics Global Conference, AGC, Kolkata 2023 (Springer Nature)

Teaching Merits

- Developed open access video tutorials for students on Print Standardization and Color Management (Link).
- Contributed towards curriculum revision and development for Diploma in Printing Technology.
- Teacher Mentor for Printing Second year students (2022-2023).

Professional Courses Coordinated

- **Program Coordinator:** 3-Day online Short Term Training Program on "Quality Assurance and Process Control in Print Production" for industry professionals and academia on 19th-21st January 2026. (Course webpage)

Professional Activities

- **Associate Member:** The Institution of Engineers (India) IEI.
- **Principal Member:**
  - Publication and Graphic Technology (MSD 6), Bureau of Indian Standards (BIS).
  - Printing Ink Stationery and Allied Products Sectional Committee (CHD 14), Bureau of Indian Standards (BIS).
- **Expert in Printing Technology:** Advisory committee of Basumati Corporation Ltd.
- **Representative from RIPT:** Ghent Workgroup (GWG)
- **Representative from RIPT:** CIP4 Initiative
- **Regional Coordinator:** Print Olympiad 2020 & 2023

Awards

- **2025:** Award for the Best Paper titled "Scanner-Based Optical Density Measurement Using Stacked Ensemble Learning: A Cost-Effective Approach for Print Quality Control" in the 3rd International Conference on Computational Intelligence, Data Science and Cloud Computing.
- **2014:** University Gold Medal for standing first in Bachelor of Printing Engineering Examination, Jadavpur University.
- **2014:** Bhaskarlal Chakroborty Smriti Padak for standing first in Bachelor of Printing Engineering Examination, Jadavpur University.
- **2014:** Bhupendra Nath Nandi Memorial Gold Medal for standing first in Bachelor of Printing Engineering Examination.
- **2014:** Coats of India Ltd Gold Centered Silver Medal for standing first in Bachelor of Printing Engineering Examination.
- **2014:** Best Paper Award for "Analysing banding features for classifying print processes using Artificial Neural Networks," Printvizon 2014.
- **2012:** Indu Bhushan Putatunda and Shanti Bhushan Putatunda Award for Academic Excellence, Jadavpur University Alumni Association.

Certifications

- **2023:** NITTT Module 8 Institutional Management & Administrative Procedures.
- **2023:** NITTT Module 7 Creative Problem Solving, Innovation and Meaningful R & D.
- **2023:** NITTT Module 6 Student Assessment and Evaluation.
- **2023:** NITTT Module 5 Technology Enabled Learning & Life Long Self Learning.
- **2023:** NITTT Module 4 Instructional Planning and Delivery.
- **2023:** NITTT Module 3 Communication Skills, Modes & Knowledge Dissemination.
- **2023:** NITTT Module 2 Professional Ethics & Sustainability.
- **2023:** Three-week Industrial Training at Saraswaty Press Ltd (Government of West Bengal) An ISO 9001:2015 certified company on 1) Evaluating the compliance of prepress workflow to PDF/X specification based on GWG recommendations and 2) Analysis on Productivity of City line 508 web press at Saraswaty press for the month of December 2022.
- **2021:** 2 Day Training Programme for Technical Committee Members, BIS Online.
- **2020:** NITTT Module 1 Orientation Towards Technical Education and Curriculum Aspects.
- **2020:** Online Teaching Tools and Techniques for Printing & Packaging (1 Week) PVGCOET Pune Online.
- **2019:** Faculty Development Program for Student Induction (FDP-SI) AICTE Sister Nivedita University.
- **2019:** TEQIP III Sponsored one-week short term Course on Emerging Trends in Photonics and Applications (ETPA 2019) NIT Durgapur.
- **2019:** Accreditation and Outcome based Learning (8 Week NPTEL Online certification course).
- **2019:** Elements of Visual Representation (8 Week NPTEL Online certification course).
- **2018:** Human Resource Management - Issues in Technical Education System (1 Week) NITTTR Kolkata.

- **2018:** Induction Training - Phase II (2 Weeks) NITTTR Kolkata.
- **2018:** TEQIP III Sponsored one-week short term Course on Open-Source Software in Academia and Research (OSSAR 2018) NIT Durgapur.
- **2017:** Designing Student Centered Instruction (1 Week) NITTTR Kolkata.
- **2017:** Quality Improvement in Institutional Activities (2 Weeks) NITTTR Kolkata.

Contact Information

- **Email:** shankhyadebnath@gmail.com
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- **SCOPUS:** https://www.scopus.com/authid/detail.uri?authorId=56844915400