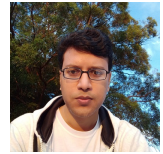


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Education

- 2021 – present **University of Technology Sydney, Australia**
Doctor of Philosophy (PhD), Computer Science – *Submitted*
Thesis: *Context-Aware Person Image Generation*
Advisors: Prof Michael Blumenstein and Prof Umapada Pal
- 2014 – 2016 **West Bengal University of Technology, India**
Master of Technology (MTech), Computer Science and Engineering, GPA: 8.16 / 10.0
- 2010 – 2013 **West Bengal University of Technology, India**
Master of Computer Applications (MCA), Computer Science, GPA: 8.41 / 10.0

Experience

- Sep 2020 – Nov 2020 **Visiting Researcher, Indian Statistical Institute, Kolkata, India**
Worked on *Generative Adversarial Networks for Human Pose Transformation* at the Computer Vision and Pattern Recognition Unit.
- May 2017 – Mar 2020 **Research Associate, Indian Statistical Institute, Kolkata, India**
Contributed to multiple research projects on *Computer Vision* and *Machine Learning* at the Computer Vision and Pattern Recognition Unit.

Publications

Top-Tier Publications

- 1 **P. Roy**, S. Ghosh, S. Bhattacharya, U. Pal, and M. Blumenstein, "TIPS: Text-Induced Pose Synthesis," in *The European Conference on Computer Vision (ECCV)*, 2022, pp. 161–178. DOI: 10.1007/978-3-031-19839-7_10.
- 2 **P. Roy**, S. Bhattacharya, S. Ghosh, and U. Pal, "STEFANN: Scene Text Editor using Font Adaptive Neural Network," in *The IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020, pp. 13 228–13 237. DOI: 10.1109/CVPR42600.2020.01324.

Conference Proceedings

- 1 A. Das, S. Biswas, **P. Roy**, S. Ghosh, U. Pal, M. Blumenstein, J. Lladós, and S. Bhattacharya, "FASTER: A Font-Agnostic Scene Text Editing and Rendering Framework," in *The IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2025.
- 2 **P. Roy**, S. Bhattacharya, S. Ghosh, U. Pal, and M. Blumenstein, "Semantically Consistent Person Image Generation," in *The International Conference on Pattern Recognition (ICPR)*, 2024, pp. 293–309. DOI: 10.1007/978-3-031-78389-0_20.
- 3 **P. Roy**, S. Bhattacharya, S. Ghosh, U. Pal, and M. Blumenstein, "d-Sketch: Improving Visual Fidelity of Sketch-to-Image Translation with Pretrained Latent Diffusion Models without Retraining," in *The International Conference on Pattern Recognition (ICPR)*, 2024, pp. 277–292. DOI: 10.1007/978-3-031-78389-0_19.

- 4 S. Ghosh, S. Bhattacharya, **P. Roy**, U. Pal, and M. Blumenstein, “ λ -Color: Amplifying Long-Range Dependencies for Image Colorization,” in *The International Conference on Pattern Recognition (ICPR)*, 2024, pp. 172–187. [DOI: 10.1007/978-3-031-78312-8_12](#).
- 5 **P. Roy**, S. Ghosh, S. Bhattacharya, U. Pal, and M. Blumenstein, “Scene Aware Person Image Generation through Global Contextual Conditioning,” in *The International Conference on Pattern Recognition (ICPR)*, 2022, pp. 2764–2770. [DOI: 10.1109/ICPR56361.2022.9956682](#).
- 6 S. Ghosh, **P. Roy**, S. Bhattacharya, and U. Pal, “Large-scale Font Identification from Document Images,” in *The Asian Conference on Pattern Recognition (ACPR)*, 2019, pp. 594–600. [DOI: 10.1007/978-3-030-41299-9_46](#).
- 7 A. Rahman, **P. Roy**, and U. Pal, “Continuous Motion Numeral Recognition using RNN Architecture in Air-Writing Environment,” in *The Asian Conference on Pattern Recognition (ACPR)*, 2019, pp. 76–90. [DOI: 10.1007/978-3-030-41404-7_6](#).
- 8 **P. Roy**, S. Ghosh, and U. Pal, “A CNN Based Framework for Unistroke Numeral Recognition in Air-Writing,” in *The International Conference on Frontiers in Handwriting Recognition (ICFHR)*, 2018, pp. 404–409. [DOI: 10.1109/ICFHR-2018.2018.00077](#).

Journal Articles

- 1 **P. Roy**, S. Bhattacharya, S. Ghosh, U. Pal, and M. Blumenstein, “Exploring Mutual Cross-Modal Attention for Context-Aware Human Affordance Generation,” (*under review*), 2025.
- 2 S. Ghosh, S. Bhattacharya, **P. Roy**, U. Pal, and M. Blumenstein, “MMC: Multi-modal Colorization of Images using Textual Description,” *Signal, Image and Video Processing (SIVP)*, vol. 19, no. 1, pp. 1–10, 2025. [DOI: 10.1007/s11760-024-03650-y](#).
- 3 S. Ghosh, **P. Roy**, S. Bhattacharya, U. Pal, and M. Blumenstein, “TIC: Text-Guided Image Colorization using Conditional Generative Model,” *Multimedia Tools and Applications (MTAP)*, vol. 83, no. 14, pp. 41 121–41 136, 2024. [DOI: 10.1007/s11042-023-15330-z](#).
- 4 **P. Roy**, S. Bhattacharya, S. Ghosh, and U. Pal, “Multi-scale Attention Guided Pose Transfer,” *Pattern Recognition (PR)*, vol. 137, p. 109 315, 2023. [DOI: 10.1016/j.patcog.2023.109315](#).
- 5 A. Rahman, **P. Roy**, and U. Pal, “Air Writing: Recognizing Multi-Digit Numeral String Traced in Air using RNN-LSTM Architecture,” *SN Computer Science (SNCS)*, vol. 2, no. 20, pp. 1–13, 2021. [DOI: 10.1007/s42979-020-00384-9](#).
- 6 S. Ghosh, P. Shivakumara, **P. Roy**, U. Pal, and T. Lu, “Graphology Based Handwritten Character Analysis for Human Behaviour Identification,” *The CAAI Transactions on Intelligence Technology (TIT)*, vol. 5, no. 1, pp. 55–65, 2020. [DOI: 10.1049/trit.2019.0051](#).

Preprint Articles

- 1 **P. Roy**, S. Bhattacharya, P. P. Roy, and U. Pal, “Position and Rotation Invariant Sign Language Recognition from 3D Kinect Data with Recurrent Neural Networks,” *arXiv preprint arXiv:2010.12669*, 2020.
- 2 **P. Roy**, S. Ghosh, S. Bhattacharya, and U. Pal, “Effects of Degradations on Deep Neural Network Architectures,” *arXiv preprint arXiv:1807.10108*, 2018.

Copyrights and Patents

- 1 S. Bhattacharya, **P. Roy**, S. Ghosh, and U. Pal, *STEFANN: Scene Text Editor using Font Adaptive Neural Network*, software copyright granted by the Copyright Office, Govt. of India, ROC No. SW-12778/2019, Diary No. 9737/2019-CO/SW, Sep. 2019.

Skills

Programming	Python, C/C++, HTML, CSS, JavaScript
Libraries	PyTorch, Keras, OpenCV, Flask, Beautiful Soup
Technologies	Git, LaTeX, SSH, Singularity, Linux, Windows
Communication	English (Professional Working Proficiency), Bengali (Native/Bilingual Proficiency)

Professional Activities

Talks and Presentations

Jan 2025	Center for Machine Vision and Signal Analysis (CMVS), University of Oulu, Finland Title: <i>Generative Modeling for Context-Aware Human Pose Transformation</i>
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Awards and Achievements

2021 – 2025	PhD Scholarship. Received <i>International Research Scholarship (IRS)</i> and <i>Faculty of Engineering and Information Technology (FEIT) Scholarship</i> , awarded by the Graduate Research School (GRS), University of Technology Sydney, Australia.
2016	Graduate Aptitude Test in Engineering (GATE). Scored 96 percentile (Top 4%).
2014 – 2016	AICTE Post Graduate GATE Scholarship awarded by MHRD, Govt. of India.
2014	Graduate Aptitude Test in Engineering (GATE). Scored 95 percentile (Top 5%).
2010	West Bengal Joint Entrance Examination for MCA (JECA). Ranked 5th.

Community Services

Dec 2024	Program Management Team Member at the International Conference on Pattern Recognition (ICPR), Dec 1 – 5, 2024, Kolkata, India.
2022 – present	Reviewer: CVPR, ICCV, IEEE TIP, IEEE Access.