

Dr. Om Prakash Singh

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Academic Background

- **Ph.D.:** **Ph.D. in Computer Science & Engineering, NIT Patna, Bihar, India (2021)**
Thesis Title: Robust and Invisible Watermarking Techniques for Digital Images.
- **M. Tech.:** **M. Tech. in Computer Science & Engineering, NIT Hamirpur, India, (2018), (CGPA: 7.87).**
Thesis Title: Efficient Data Dissemination in Vehicular Ad-Hoc Networks
- **B. E.:** **B. E. in Computer Science & Engineering, RGPV Bhopal, India, (2015), (CGPA: 7.99).**

Awards & Recognitions

- Qualified Graduate Aptitude Test in Engineering (**GATE**) examination: **GATE-2016**, and **GATE-2017**.
- Qualified University Grant Commission – National Eligibility Test (**UGC-NET**), **June-2019**, and **Dec-2019**.
- Awarded **Ministry of Human Resource Development (MHRD) scholarship** for M. Tech, NIT Hamirpur (2016-2018).
- Awarded **Institute Scholarship** for PhD, NIT Patna (2019-2021).

Teaching Experiences

- Currently working as **Assistant Professor** Grade II, Level 10, in Department of Computer Science & Engineering, at **Indian Institute of Information Technology Bhagalpur**, Bihar, India since **2nd June 2023**.
- Worked as **Assistant Professor (II)** in the School of Computer Engineering, at **Kalinga Institute of Industrial Technology (KIIT) University**, Bhubaneswar, Odisha from **25th Nov, 2022 to 30th May, 2023**.
- Worked as **Temporary Faculty** in Department of Computer Science & Engineering, at **National Institute of Technology Patna**, Bihar, India during **13th August 2021 to 24th Nov 2022**.

Professional Services:

- Reviewer of **IEEE Transactions on Industrial Informatics** (SCIE Journal).
- Reviewer of **IEEE Transactions on Computational Social Systems** (SCIE Journal).
- Reviewer of **IEEE Transactions on Multimedia** (SCIE Journal).
- Reviewer of **ACM Transactions on Multimedia Computing, Communications and Applications** (SCIE Journal).
- Reviewer of **IEEE Intelligent Systems** (SCIE Journal).
- Reviewer of **IEEE Journal of Biomedical and Health Informatics** (SCIE Journal).
- Reviewer of **Expert Systems with Applications**, Elsevier (SCIE Journal)
- Reviewer of **Engineering Applications of Artificial Intelligence**, Elsevier (SCIE Journal)
- Reviewer of **Journal of Ambient Intelligent and Humanized Computing** (SCIE Journal).
- Reviewer of **IET Image Processing** (SCIE Journal).
- Reviewer of **Multimedia Tools and Applications**, Springer (SCIE Journal).
- Reviewer of **Journal of Electronic Imaging**, SPIE, (SCIE Journal)
- Reviewer of Earth Science Informatics, Springer (SCIE Journal).
- Reviewer of Imaging Science Journal, [Taylor & Francis](#), (SCIE Journal)
- **PC member** of **29th International Conference on Neural Information Processing (ICONIP-22)**, November 22-26, 2022, New Delhi, India.
- **Session Chair** of **29th International Conference on Neural Information Processing (ICONIP-22)**, November 22-26, 2022 New Delhi, India.
- Reviewer of 3rd IEEE International Conference on Advances in Computing, Communication Control and Networking (ICAC3N-21), December 17-18, 2021, Greater Noida, India.
- Reviewer of IEEE International Conference on Computing, Communication, and Intelligent Systems (ICCCIS-2022) will be held during Nov 04-05th, 2022 in Greater Noida, Sharda University, India.
- Reviewer for International Conference on Computing, Communication and Intelligent Systems (ICCCIS-2023) will be held during Nov 03-04th, 2023 in Greater Noida, Sharda University, India.

Publications

Journal Publications:

- [J1] **O. P. Singh**, A. Singh, G. Srivastava and N. Kumar, "Image watermarking using soft computing techniques: A comprehensive survey", *Multimedia Tools and Applications*, vol. 80, no. 20, pp. 30367-30398, 2020, <https://doi.org/10.1007/s11042-020-09606-x>. [**SCIE Indexed, IF=2.577**].
- [J2] **O. P. Singh**, A. K. Singh, "Data hiding in encryption-compression domain", *Complex and Intelligent Systems*, pp. 1-14, 2021, <https://doi.org/10.1007/s40747-021-00309-w>. [**SCIE Indexed, IF=6.700**].
- [J3] **O. P. Singh**, C. Kumar, A. K. Singh, M. P. Singh, H. Ko, "Fuzzy-based secure exchange of digital data using watermarking in NSCT-RDWT-SVD domain", *Concurrency and Computation Practice and Experience*, pp. 1-11, 2021, <https://doi.org/10.1002/cpe.6251>. [**SCIE Indexed, IF=1.831**].

- [J4] **O. P. Singh**, A. K. Singh, "A Robust Information Hiding Algorithm Based on Lossless Encryption and NSCT-HD-SVD", *Machine Visions and Applications*, vol. 32, no. 4, pp. 1-13, 2021, <https://doi.org/10.1007/s00138-021-01227-0>. [**SCIE Indexed, IF=2.983**].
- [J5] **O. P. Singh**, A. K. Singh, A. K. Agrawal, Huiyu Zhou, "SecDH: Security of COVID-19 images based on data hiding with PCA", *Computer Communications*, vol.191, pp. 368-377, 2022, <https://doi.org/10.1016/j.comcom.2022.05.010>. [**SCIE Indexed, IF=5.047**].
- [J6] N. Sharma, **O. P. Singh**, A. Anand and A. Singh, "Improved method of optimization-based ECG signal watermarking", *Journal of Electronic Imaging*, vol. 31, no. 04, pp.1-12, 2021, <https://doi.org/10.1117/1.jei.31.4.041207>. [**SCIE Indexed, IF=0.829**].
- [J7] D. K. Mahto, **O. P. Singh**, A. K. Singh, "FuSIW: Fusion-based secure RGB image watermarking using hashing" *Multimedia Tools and Applications*, Springer, pp. 1-17, 2022, <https://doi.org/10.1007/s11042-022-13454-2>. [**SCIE Indexed, IF=2.577**].
- [J8] K. N. Singh, **O. P. Singh**, A. K. Singh, and A. K. Agrawal, "WatMIF: Multimodal medical image fusion based watermarking for tele-health applications" *Cognitive Computation*, Springer, pp. 1-17, 2022, <https://doi.org/10.1007/s12559-022-10040-4>, [**SCIE Indexed, IF=4.890**].
- [J9] K. N. Singh, **O. P. Singh**, and A. K. Singh, "ECiS: Encryption prior to compression for digital image security with reduced memory" *Computer Communications*, Elsevier, vol. 193, pp. 410-417, 2022, <https://doi.org/10.1016/j.comcom.2022.07.049>, [**SCIE Indexed, IF=5.047**].
- [J10] K. N. Singh, **O. P. Singh**, N. Baranwal, and A. K. Singh, "An efficient chaos-based image encryption algorithm using real-time object detection for smart city applications", *Sustainable Energy Technologies and Assessments*, Elsevier, pp. 1-10, 2022. <https://doi.org/10.1016/j.seta.2022.102566>, [**SCIE Indexed, IF=7.632**].
- [J11] D. Mahapatra, P. Amrit, **O. P. Singh**, A. K. Singh, and A. K. Agrawal, "Auto encoder-CNN based embedding and extraction model for Image watermarking" *Journal of electronic imaging*, vol. 32, no. 02, pp.1-15, 2022. <https://doi.org/10.1117/1.JEI.32.2.021604>. [**SCIE Indexed, IF=0.945**].
- [J12] K. N. Singh, **O. P. Singh**, and A. K. Singh, "EiMOL: A Secure Medical Image Encryption Algorithm based on Optimization and the Lorenz System", *ACM Transactions on Multimedia Computing Communications and Applications*, pp. 1-22, 2022. <http://doi.org/10.1145/3561513>, [**SCIE Indexed, IF=4.077**].
- [J13] **O. P. Singh**, A. K. Singh, and H. Zhou, "Multimodal fusion-based image hiding algorithm for secure healthcare system" in *IEEE Intelligent Systems*, pp. 1-7, 2022. <http://doi.org/10.1109/MIS.2022.3210331>, [**SCIE Indexed, IF=6.744**].
- [J14] **O. P. Singh**, A. Anand, A. K. Singh, and A. Agrawal, "Electronic Health Data Security in the Internet of Things through Watermarking: An Introduction" *IEEE Internet of Things Magazine*, vol. 5, no. 2, pp. 55-58, 2022. <http://doi.org/10.1109/iotm.001.2100122>.
- [J15] K. N. Singh, N. Baranwal, **O. P. Singh**, and A. K. Singh, "SIELNet: 3D Chaotic Map Based Secure Image Encryption using Customized Residual Dense Spatial Network" *IEEE Transactions on Consumer Electronics*, 2022. <http://doi.org/10.1109/TCE.2022.3227401> [**SCIE Indexed, IF=4.414**].
- [J16] D. K. Mahto, **O. P. Singh**, K. N. Singh, and A. K. Singh, "Optimization based improved robust and high-capacity watermarking for color images" *ACM Transactions on Multimedia Computing, Communications, and Applications*, 2022. <https://doi.org/10.1145/3580502> [**SCIE Indexed, IF=5.102**].

- [J17] **O. P. Singh**, K. N. Singh, N. Baranwal, and A. K. Singh, "HIDEmarks: Hiding multiple marks for robust medical data sharing using IWT-LSB" *Multimedia Tools and Applications*, Springer, 2023. [**SCIE Indexed, IF=2.577**]. [**Current status: Under Review**].
- [J18] P. Diwvedi, N. Baranwal, K. N. Singh, **O. P. Singh**, and A. K. Singh, "HIDDEN: Robust data hiding for medical images with encryption and local binary pattern" *Future Generation Computer System*, Elsevier, 2023. [**SCIE Indexed, IF=7.307**]. [**Current status: Under Review**].

Book Chapters:

- [BC1] K. N. Singh, **O. P. Singh**, A. K. Agrawal and A. K. Singh "Secure medical image encryption algorithm for e-healthcare applications" In: Singh and Zhou (eds) *Medical Information Processing and Security Techniques and applications*, The IET Book Series on e-Health Technologies, pp. 1-30, https://doi.org/iet_books.78594.016, 2022.
- [BC2] N. Sharma, **O. P. Singh**, A. Anand and A. K. Singh "ECG-based dual watermarking scheme for healthcare applications" In: Singh and Zhou (eds) *Medical Information Processing and Security Techniques and applications*, The IET Book Series on e-Health Technologies, pp. 1-15, https://doi.org/iet_books.78594.016, 2022.
- [BC3] **O. P. Singh**, K. N. Singh, A. K. Agrawal, and A. K. Singh, "Robust watermarking algorithm based on multimodal medical image fusion" In: Singh and Zhou (eds) *Medical Information Processing and Security Techniques and applications*, The IET Book Series on e-Health Technologies. [**Current status: Accepted for Publication**].
- [BC4] **O. P. Singh**, K. N. Singh, and A. K. Singh, "Blockchain based Watermarking Framework for Digital Content Protection: Review and Challenges" In: Singh and Zhou (eds) *Medical Information Processing and Security Techniques and applications*, The IET Book Series on e-Health Technologies. [**Current status: Accepted for Publication**].

Conference Publications:

- [C1] **O. P. Singh**, and A. K. Singh, "Image Fusion-Based Watermarking in IWT-SVD Domain" *Advanced Machine Intelligence and Signal Processing. Lecture Notes in Electrical Engineering*, vol. 858. pp. 163-175, Springer, Singapore, 2022. https://doi.org/10.1007/978-981-19-0840-8_12.

<h3>Conference, Short Term Course, and Faculty Development Program</h3>
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- [1] Attended Short Term Course on "Security Trends in Mobile Ad-Hoc Sensor System (STMAS-2018)" from 15-20th March, 2018 at NIT Hamirpur.
- [2] Participated in Faculty Development Program (FDP) on "Artificial Intelligence" From 2-6th December, 2019 at NIT Patna.
- [3] Participated in Faculty Development Program (FDP) on "Multimedia and Security" from 16-20th December, 2020 at NIT Patna.
- [4] Participated in Online Training Programme on "Advanced Optimization Techniques and hands-on with MATLAB/SCILAB" from 6-17th September, 2021 at NIT Patna.

Area of Interest

- Information Security
- Image Processing
- Soft Computing
- Cryptography

Personal Information

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References

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Declaration:

I hereby declare that all the statements made above are true to the best of my knowledge and belief.

Omprakash Singh

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Last updated: 09th June, 2023