

## Dr. Vinay Kumar



**Dr. Vinay Kumar**, Associate Professor

**Centre/School/Special Centre:** School of Studies of Engineering & Technology

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### Qualification:

- Ph.D. Computer Science & Engineering - Dr. APJ Abdul Kalam Technical University, Lucknow (U.P.)
- M.Tech. Computer Science & Engineerin - GLA University, Mathura (U.P.)
- B.Tech. Computer Science & Engineering - Dr. APJ Abdul Kalam Technical University, Lucknow (U.P.)

### Area of Interest/Specialization:

- Computer Vision, Multimedia Forensics, Image and Video Processing,
- Artificial Intelligence, Machine Learning, Deep Learning, Data Science

### Experience:

- 14+ Years

### Projects/Consultancy:

I worked as a Coordinator for various Information and Communication Technology Consultancy Projects at Lucknow Smart City Ltd. with Joint Venture of RITES Ltd. Lucknow.

- Digitization work at Amir-Ud-Daula Public Library, Qaiserbagh, Lucknow.
- Vehicle tracking system enabled with fuel sensor for fleet managed by Lucknow Municipal Corporation at R R Workshop.
- Inventory management software for Lucknow Municipal Corporation at R R Workshop.
- Integrated traffic management system (ITMS) phase-2 in Lucknow City.
- IT works of Police Kiosk in Lucknow Smart City Area.
- Wi-Fi zone at 20 locations in Lucknow Smart City Area.
- Integrated Command and Control Centre- Phase-II (ICCC-II).

## Awards/Achievements:

- I have been awarded the Deen Dayal Upadhyaya Quality Improvement Programme (DDUQIP) Fellowship to pursue a PhD at Dr. APJ Abdul Kalam Technical University in Lucknow.

## Publications:

### • SCI Indexed Journal Papers:

- Kumar, V., Gaur, M. Multiple forgery detection in video using inter-frame correlation distance with dual-threshold. *Multimed Tools Appl* **81**, 43979–43998 (2022). <https://doi.org/10.1007/s11042-022-13284-2>
- Kumar, V., Gaur, M. & kansal, V. Deep feature based forgery detection in video using parallel convolutional neural network: VFID-Net. *Multimed Tools Appl* **81**, 42223–42240 (2022). <https://doi.org/10.1007/s11042-021-11448-0>
- Kumar, Vinay & Kansal, Vineet & Gaur, Manish. (2022). Multiple Forgery Detection in Video Using Convolution Neural Network. *Computers, Materials & Continua*. 73. 1347-1364. 10.32604/cmc.2022.023545.
- " Sunitha, Gurram & Geetha, K. & Subramani, Neelakandan & Pundir, Aditya & Hemalatha, S. & Kumar, Vinay. (2022). Intelligent deep learning based ethnicity recognition and classification using facial images. *Image and Vision Computing*. 121. 104404. 10.1016/j.imavis.2022.104404.
- B. Swaminathan, S. Palani, S. Vairavasundaram, K. Kotecha\* and V. Kumar, "IoT-Driven Artificial Intelligence Technique for Fertilizer Recommendation Model," in *IEEE Consumer Electronics Magazine*, vol. 12, no. 2, pp. 109-117, 1 March 2023, doi: 10.1109/MCE.2022.3151325..
- Alsuhibany, Suliman A., Abdel, Kumar, Vinay, Mansour, Romany F., Ensemble of Deep Learning Based Clinical Decision Support System for Chronic Kidney Disease Diagnosis in Medical Internet of Things Environment, *Computational Intelligence and Neuroscience*, 2021, 4931450, 13 pages, 2021. <https://doi.org/10.1155/2021/4931450>
- Garg, Neha, Neeraj, , Raj, Manish, Gupta, Indrajeet, Kumar, Vinay, Sinha, G. R., Energy-Efficient Scientific Workflow Scheduling Algorithm in Cloud Environment, *Wireless Communications and Mobile Computing*, 2022, 1637614, 12 pages, 2022. <https://doi.org/10.1155/2022/1637614>.
- Sathya, M., Jeyaselvi, M., Joshi, Shubham, Pandey, Ekta, Pareek, Piyush Kumar, Jamal, Sajjad Shaukat, Kumar, Vinay, Atiglah, Henry Kwame, [Retracted] Cancer Categorization Using Genetic Algorithm to Identify Biomarker Genes, *Journal of Healthcare Engineering*, 2022, 5821938, 12 pages, 2022. <https://doi.org/10.1155/2022/5821938>
- Yang, Suhong, Hassan, Mohammed k., kumar, Vinay, PSE and ISE Based E-Commerce Model Design of Sharing Enterprises, *Wireless Communications and Mobile Computing*, 2022, 7134861, 9 pages, 2022. <https://doi.org/10.1155/2022/7134861>

### • Scopus Indexed Journal Papers

- “A robust semi fragile lossless image data hiding approach” *International Journal of Computational Vision and Robotics (IJCVR)*, Vol. 5, No. 1, 2015.

- “A Support Vector Machine Based Macro-block Mode Decision in MPEG-2 video compression”, *International Journal of Computational Vision and Robotics (IJCVR)*, Vol.4, No.4, 2014.
- “KNN based Machine Learning Approach for Text and Document Mining”, *International Journal of Database Theory and Application*, Vol.7, No.1 (2014), pp.61-70

- **International Conference Papers**

- "A Comprehensive Analysis on Video Forgery Detection Techniques", **In Proceedings of the International Conference on Innovative Computing & Communications (ICICC)**, 2020, DOI: 10.2139/ssrn.3563382.
- “Banking trojans APK detection using formal methods”, **In 2019 4th International Conference on Information Systems and Computer Networks (ISCON)** (pp. 606-609). IEEE doi:10.1109/ISCON47742.2019.9036319
- “A Framework Using Multiple Features to Detect Multi-View Human Activity” in the **Proceedings of 3rd International Conference on Internet of Things and Connected Technologies (ICIOTCT)**, 2018 held at Malaviya National Institute of Technology, Jaipur (India) on March 26-27, 2018.
- ”Macro-block Mode Decision in MPEG-2 Video Compression using Machine Learning”, **In the Proceedings of Fourth International Conference on Signal and Image, LNEE, Springer**, Vol. 222,13-15Dec. 2012.

- **Book Chapter**

- "A Comprehensive Survey on Passive Video Forgery Detection Techniques", **Recent Studies on Computational Intelligence**, (Vol. 921, p. 39-57) 2020, DOI: 10.1007/978-981-15-8469-5\_4.

### **Patent Published:**

- Mr. Bhanu Dwivedi, Dr. Ramveer Singh, Mr. Vinay Priy Mishra, Ms. Richa, Ms. Karnika Dwivedi, Dr. B D K Patro, Mr. Arun Rai, **Dr. Vinay Kumar** “A System For Controlling Gateway Device In The Internet Of Things(Iot) Network And Method Thereof “ Application No. 202111050025
- **Dr. Vinay Kumar**, Mr. Vinay Priy Mishra, Dr. Shashank Shekhar Singh, Ms. Indu Kashyap, Prof. (Dr.) Nalini Kanta Sahoo, Mr. Vivek Srivastava, Mr. Atul Kumar Rai, Mr. Asit Singh, Mr. Hrishikesh Kumar Singh, Mr. Arun Kumar Rai “A System For Skin Cancer Disease Detection Using Machine Learning Approach And Method Thereof” Application No. 202211000903

### **Invited Talk:**

- **Resource Person:** Delivered a lecture on the topic “Learning Management System (LMS)” in online Refresher Course on Technology Integration in Education and Teaching, Organized by the UGC-Malaviya Mission Teacher Training Centre, Guru Ghasidas Vishwavidyalaya, Bilaspur, 10/09/2024.
- **Resource Person:** Delivered an expert lecture on the topic “Artificial Intelligence and Safety Measures” in a Workshop organized by The Institution of Engineers (India), CG State Centre, Raipur, in collaboration with the School of Studies, Computer Science & IT, Pt. Ravishankar Shukla University, Raipur, 06/08/2024.