

A. Mueed Hafiz

Curriculum Vitae

Department of Electr. & Comm. Engineering
Institute of Technology, University of Kashmir
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Education

- 2013–2018 : **Ph.D, Electronics**, *University of Kashmir, Srinagar.*
- 2006–2008 : **M.Tech, Communication & Information Technology**, *National Institute of Technology, Srinagar, 2nd Rank in Class.*
- 2001–2005 : **B.Tech, Electronics & Communication Engineering**, *National Institute of Technology, Srinagar, 3rd Rank in Class.*
- 2000 : **Higher Secondary Education (Non-Medical)**, *JKBOSE, 3rd Rank in Kashmir.*
- 1998 : **Secondary Education**, *JKBOSE, 15th Rank in Kashmir.*

Work Experience

Dept. of Electronics & Communication Engineering, Institute of Technology, University of Kashmir, Srinagar

- 2015–present **Sr. Asst. Professor.**

Dept. of Electronics & Instrumentation Technology, University of Kashmir, Srinagar

- 2011–2015 **Asst. Professor.**

Position of Responsibility

- 2021–2023 **Ex-Coordinator**, *Dept. of Electronics & Communication Engineering, Institute of Technology, KU.*
- 2016–2018 **Ex-Coordinator**, *Dept. of Electronics & Communication Engineering, Institute of Technology, KU.*
- 2016–present **Board of Studies (BOS) Member**, *Institute of Technology, KU.*
- 2021–present **Board of Research Studies (BORS) Member**, *Institute of Technology, KU.*
- 2016–present **AICTE Approval Committee Member**, *Institute of Technology, KU.*
- 2016–present **Purchase Incharge**, *Dept. of Electronics & Communication Engineering, Institute of Technology, KU.*
- 2016–present **eAwards Incharge**, *Dept. of Electronics & Communication Engineering, Institute of Technology, KU.*

Membership of Societies

- 2020–present **Association for Computing Machinery (ACM), USA.**

Research Activities

Research interests, *Computer Vision, Reinforcement Learning, Quantum Machine Learning, Artificial Intelligence, etc..*

Reviewer, *IEEE, IET, ACM, Springer, Elsevier, Taylor&Francis, etc.*

Subjects Taught

M.Tech ECE, *Computer Vision, Python Programming.*

B.Tech ECE, *Communication Systems-II, Digital Electronics, Microprocessors, Microwave Engineering, Network Analysis.*

Publications

Journal Articles

- 2024 Abdul Mueed Hafiz, Irfan Faiq, and M Hassaballah. Solving partial differential equations using large-data models: a literature review. *Artificial Intelligence Review*, volume 57. Springer, 2024, (**Impact Factor:10.7**).
- 2023 Abdul Mueed Hafiz, Mahmoud Hassaballah, and Adel Binbusayyis. Formula-driven supervised learning in computer vision: A literature survey. *Applied Sciences*, volume 13, page 723. MDPI AG, Jan 2023, (**Impact Factor:2.5**).
- 2023 Abdul Mueed Hafiz, Rouf Ul Alam Bhat, Shabir Ahmad Parah, and M. Hassaballah. SE-MD: A single-encoder multiple-decoder deep network for point cloud reconstruction from 2D images. *Pattern Analysis and Applications*, volume 26, pages 1291–1302. Springer Science and Business Media LLC, Apr 2023, (**Impact Factor:3.7**).
- 2023 Abdul Mueed Hafiz. A survey on light-weight convolutional neural networks: Trends, issues and future scope. *Journal of Mobile Multimedia (Scopus)*. River Publishers, Aug 2023.
- 2023 A. M. Hafiz, M. Hassaballah, Abdullah Alqahtani, Shtwai Alsubai, and Mohamed Abdel Hameed. Reinforcement learning with an ensemble of binary action deep Q-networks. *Computer Systems Science and Engineering (Scopus)*, pages 1–19. Computers, Materials and Continua (Tech Science Press), 2023.
- 2022 A. M. Hafiz, R. A. Bhat, and M. Hassaballah. Image classification using convolutional neural network tree ensembles. *Multimedia Tools and Applications*, volume 82, pages 6867–6884. Springer Science and Business Media LLC, Aug 2022, (**Impact Factor:3.0**).
- 2022 A. M. Hafiz. Image recognition using multiple vision transformers in parallel having different patch sizes. *Mathematical Statistician and Engineering Applications (Scopus)*, volume 71, pages 1183–1194, Aug 2022.
- 2021 A. M. Hafiz, S. A. Parah, and R. A. Bhat. Reinforcement learning applied to machine vision: State of the art. *International Journal of Multimedia Information Retrieval*. Springer Science and Business Media LLC, May 2021, (**Impact Factor:3.6**).
- 2020 Abdul Mueed Hafiz and Ghulam Mohiuddin Bhat. A survey on instance segmentation: State of the art. *International Journal of Multimedia Information Retrieval*, volume 9, pages 171–189. Springer Science and Business Media LLC, Jul 2020, (**Impact Factor:3.6**).
- 2019 A. M. Hafiz. K-nearest neighbour and support vector machine hybrid classification. *International Journal of Imaging and Robotics*, volume 19, pages 33–41. CESER Publications, 2019.
- 2018 Abdul Mueed Hafiz and Ghulam Mohiuddin Bhat. Artificial intelligence in China, recent trends. *International Journal of Computer Application*, volume 2. RS Publication, 2018.
- 2016 A.M. Hafiz and G.M. Bhat. Non-uniform slant correction using generalized projections. *International Journal of Control Theory and Applications (Scopus)*, volume 9, pages 8489–8497, 2016.
- 2016 A.M. Hafiz and G.M. Bhat. Effect of intrinsic parameters on efficiency of gradient features. *International Journal of Imaging and Robotics (Scopus)*, volume 16, pages 35–44. CESER Publications, 2016.
- 2016 Abdul Hafiz and Ghulam Bhat. Arabic OCR using a novel hybrid classification scheme. *Journal of Pattern Recognition Research (ESCI)*, volume 11, pages 55–60. JPRR, 2016.

- 2016 A. M. Hafiz, Z. A. Bhat, M. Jan, M. U. Bhat, I. B. Sofi, I. A. Tantray, and G. M. Bhat. KU-database of handwritten Arabic words. *International Journal of Engineering and Future Technology*, volume 2, pages 33–44. CESER Publications, 2016.
- 2015 S.A. Parah, J.A. Sheikh, A.M. Hafiz, and G.M. Bhat. A secure and robust information hiding technique for covert communication. *International Journal of Electronics*, volume 102, pages 1253–1266. Taylor & Francis, 2015, (**Impact Factor:1.3**).
- 2014 S.A. Parah, J.A. Sheikh, A.M. Hafiz, and G.M. Bhat. Data hiding in scrambled images: A new double layer security data hiding technique. *Computers and Electrical Engineering*, volume 40, pages 70–82. Springer, 2014, (**Impact Factor:4.0**).
- 2014 A. M.Hafiz and G. M. Bhat. Handwritten digit recognition using slope detail features. *International Journal of Computer Applications*, volume 93, pages 14–19. Foundation of Computer Science, May 2014.

In Conference Proceedings

- 2022 A. M. Hafiz. A survey of deep Q-networks used for reinforcement learning: State of the art. In *Lecture Notes on Data Engineering and Communications Technologies*, pages 393–402. Springer Nature Singapore, Jul 2022.
- 2021 Abdul Mueed Hafiz and Mahmoud Hassaballah. Digit image recognition using an ensemble of one-versus-all deep network classifiers. In *Lecture Notes in Networks and Systems*, pages 445–455. Springer Nature Singapore, 2021.
- 2021 Abdul Mueed Hafiz and Ghulam Mohiuddin Bhat. Fast training of deep networks with one-class CNNs. In *Studies in Computational Intelligence*, pages 409–421. Springer International Publishing, 2021.
- 2019 Abdul Mueed Hafiz and Ghulam Mohiuddin Bhat. A survey of deep learning techniques for medical diagnosis. In *Advances in Intelligent Systems and Computing*, pages 161–170. Springer Singapore, Jun 2019.
- 2015 A.M. Hafiz and G.M. Bhat. Boosting OCR for some important mutations. In *International Conference on Advances in Computing and Communication Engineering*. IEEE, May 2015.
- 2012 Javaid A. Sheikh, Shabir A. Parah, Uzma Sakeena Akhtar, A. Mueed Hafiz, and G.Mohiuddin Bhat. Orthogonal variable spreading factor (OVSF) based image transmission using Multiple input multiple output orthogonal frequency division multiplexing (MIMO-OFDM) system. In *International Conference on Communications, Devices and Intelligent Systems*. IEEE, Dec 2012.
- 2012 A. M. Hafiz, J. A. Sheikh, and S.A. Parah. A pattern recognition approach based on feature-wise comparison. In *International Conference on Computational Intelligence and Computing Research*. IEEE, Dec 2012.

Book Chapters

- 2023 Abdul Mueed Hafiz. Attention mechanisms in machine vision: A survey of the state of the art. In *Human-Assisted Intelligent Computing*, pages 12–1 – 12–22. IOP Publishing, Apr 2023.
- 2022 Abdul Mueed Hafiz. A novel SOM ensemble classification technique for limited data. In *Futuristic Trends for Sustainable Development and Sustainable Ecosystems*, pages 76–88. IGI Global, Jun 2022.
- 2022 Abdul Mueed Hafiz. Image classification by reinforcement learning with two-state Q-learning. In *Handbook of Intelligent Computing and Optimization for Sustainable Development*, pages 171–181. Wiley, Feb 2022.
- 2021 Abdul Mueed Hafiz and Ghulam Mohiuddin Bhat. Fast training of deep networks with one-class CNNs. In *Studies in Computational Intelligence*, pages 409–421. Springer International Publishing, 2021.

Projects

2024–present **Title: Design and Implementation of a Novel Sensorless Control Scheme for Electric Vehicle Drive Application with Reduced Torque & Current Ripples**, *Area of Project: Applications of Artificial Intelligence in Electrical Engineering*, Agency: JK Science Technology & Innovation Council, Grant Amount: Rs 10.80 Lacs.
Designation as: Co-Principal Investigator (Co-PI)

Patents

Patents Granted

- 2024 **A Novel Apparatus for Environment Sensing in Tunnels, Deep Wells and Manholes before Repair Works.**
- 2024 **Design Patent.**
- 2024 **Internet based Dual Ambu Bag Resuscitator.**
- 2023 **A Carbon Monoxide (CO) Detection and Ventilation System.**

Patents Published

- 2024 **Wind-powered Adaptive Traffic Management System with Split Mounted Vertical Axis Turbines.**
- 2024 **System and Device for Neural Activity-directed Device Operation and Method Thereof.**
- 2023 **Wearable Device for Personal Safety, Security, and Health Monitoring.**
- 2022 **Snow Clearing and Melting Device.**
- 2021 **An Automatic Chicken Coop enabled to Open and Close Doors Automatically.**

Research Supervision

2023–present **M.Tech Scholar Supervision**, 3 Completed, 2 Pursuing.
2022–present **Ph.D Scholar Co-Supervision**, 1 Pursuing.

Computer skills

Programming Languages, Python, Matlab, C, C++, Java.

Google Scholar Metrics (on 15-12-2024)

Most Cited Research Article, "A survey on instance segmentation: state of the art", MMIR, Springer Nature, 585 citations.

Total Citations , 1024.

i10-Index, 13.

h-Index, 13.