MISAAL KHAN

Prime Minister Research Fellow | Indian Institute of Technology Jodhpur - All India Institute of Medical Sciences Jodhpur

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Result-oriented, top performer, and self-starter professional with expertise in technologies such as machine learning, computer vision, and digital health tool generation.

I am currently a Ph.D. scholar in Medical Technology at IIT-AIIMS Jodhpur under the supervision of Prof. Mayank Vatsa (IITJ), Prof. Richa Singh (IITJ), and Dr. Kuldeep Singh, AIIMS Jodhpur.

📰 PUBLICATIONS

2024 Mittal, S., **Khan, M.**, Singh, R., Vatsa, M. (2024). "Prompts to Pixels: Uncovering Biases and Spurious Correlations in Text-to-Image Face Generation", Association for the Advancement of Artificial Intelligence (AAAI), 2024 **(Submitted)**

2024 **Khan, M.**, Singh, R., Vatsa, M. (2024)."DomainAdapt: Leveraging Multitask Learning and Domain Insights for Children's Nutritional Status Assessment", Medical Image Computing and Computer Assisted Intervention 2024 **(Accepted)**

2023 **Khan, M.**, Agarwal, S., Singh, R., Vatsa, M., & Singh, K. (2023). **NutriAI: AI-Powered Child Malnutrition Assessment in Low-Resource Environments**, In Proceedings of the 32nd International Joint Conference on Artificial Intelligence (IJCAI-23), **(Accepted** - Paper)

2022 **Khan, M.**, Khurshid, M., Vatsa, M., Singh, R., Duggal, M., & Singh, K., (2022), On Artificial Intelligence Approaches in Promoting Maternal and Neonatal Health in Low Resource Settings: A Review, Frontiers in Public Health

2022 **Khan, M.**, Vatsa, M., Singh, R. (2022). "Novel Few Shot Learning Techniques for Nutritional Status Detection via Images", Women in Computer Vision (WiCV) at CVPR 2022 **(Accepted - Poster, Travel Award)**

💻 PROJECTS

- *Nutritional status screening in children via novel small sample size classifiers, PI – Dr. Mayank Vatsa, Professor, CSE, IITJ (mvatsa@iitj.ac.in)*
  `Computer Vision` `Deep Learning`

- *CAD biomarkers prediction using IVUS images and Mirna data. PI – Dr. Angshuman Paul Assistant Professor, CSE, IITJ (apaul@iitj.ac.in)*
  `Machine Learning` `Computer Vision` `Deep Learning`

- *Neonatal Pain Detection (IAB Lab, IIT Jodhpur) PI – Dr. Richa Singh, HoD, Professor, CSE, IITJ (richa@iitj.ac.in)*
  `Deep Learning` `Computer Vision`

- *Micro Engineered Systems for Antibiotic Susceptibility Testing (Bees Lab, IISc) PI – Dr. Hardik J Pandya, Assistant Professor, DESE, IISc (hjpandya@iisc.ac.in)*
  `Micro engineering` `Inductance Analysis`

- *Portable Platform for rapid phenotyping of cancer biopsy tissues (Bees Lab, IISc) PI – Dr. Hardik J Pandya, Asst. Prof., DESE, IISc (hjpandya@iisc.ac.in)*
  `Micro engineering` `Inductance Analysis` `Tissue Biomechanics`

- *Chromosome numbers of a rare, threatened plant Eremogone curvifolia and physical localization of 45S rRNA genes on its chromosomes (B. Tech. Project) PI - Dr. Sundip Malik, Prof, MBGE, GBPUAT (malik.sundip@gmail.com)*
  `Fluorescent Microscopy`

🎓 FELLOWSHIPS

2022 Prime Minister Research Fellowship, Ongoing

2020 Ph.D., MHRD – GATE Fellowship (2020-2022, Central Govt. of India)

2017 Merit Scholarship for academic excellence in B. Tech. 2016 to 2019 (GBPUAT)

❝ REFERENCES

- Dr. Mayank Vatsa, Professor, CSE, IIT Jodhpur @ mvatsa@iitj.ac.in
- Dr. Richa Singh, Professor, CSE, IIT Jodhpur @ richa@iitj.ac.in
- Dr. Kuldeep Singh, Dean Academics & Head Pediatrics, AIIMS Jodhpur @ kulpra@gmail.com

🎓 EDUCATION

Dual Master's – Ph.D. (Medical Technologies)

Indian Institute of Technology Jodhpur - All India Institute of Medical Sciences Jodhpur

📅 2020 – 2025   ℹ CGPA: 9.56

B. Tech. (Biotechnology)

G.B. Pant University of Agriculture and Technology

📅 2015 – 2019   ℹ CGPA: 7.70

Higher Secondary Examinations (10+2) - Bio Major, with Math

CBSE

📅 2015   ℹ 92%

💼 EXPERIENCE

Indian Institute of Technology, Jodhpur

Teaching Assistant

📅 August 2020 – Present

Image Analysis and Biometrics lab (IAB Lab), IIT Jodhpur

Ph.D. Scholar

📅 January 2021 – Present

Biomedical and Electronic Systems Engineering Laboratory (BEES Lab), Indian Institute of Science (IISc)

Project Assistant

📅 August 2019 – October 2020

🏆 AWARDS AND RECOGNITION

2024 **MICCAI RISE Travel Grant**
upto $2500

2024 **Received travel grant to attend Google Research Week 2024**

2024 **Served as a Reviewer for AAAI'24**

2023 **Received Microsoft Research Travel Grant (MSR)**
worth $ 1800 to attend IJCAI'23

2023 **Finalist | EPiC Challenge, MIT Media Lab, Cambridge, MA, USA - $300**
Ranked in top 9, Sole Rep. of India

2022 **Travel Grant | WiCV, CVPR 2022**
Amount - $2700, New Orleans, USA

2021 **NVIDIA certified Deep Learning Developer**
IIT Jodhpur

2020 **GATE'20, JAM'20 Qualified**
Top 10 percentile rank in National Engineering and Science Exams