Mr. Haseeb Ali Khan

CURRICULUM VITAE

(+82) 10 2352 9803

haseebali5278@gmail.com

Scholar

Sejong University, Seoul, South Korea

22 March, 1998

Summary

Researcher specializing in Augmented Reality (AR), Virtual Reality (VR), and Artificial Intelligence (AI). Experienced in developing immersive technologies and machine learning models to enhance accessibility and user experience. Skilled in cross-cultural collaborations and academic research, with a strong focus on pursuing a PhD in AR, VR, and AI to contribute to cutting-edge advancements in these fields.

Education

SEP 2022-
AUG 2024

MS in Software Engineering

Sejong University, Seoul, South Korea
Department of Software

Thesis: Enhancing Mixed Reality Accessibility for Color-Vision Impaired Users

SEP 2015 -
AUG 2019

BS in Electrical Engineering

Comsats University Islamabad, Pakistan
Department of Electrical and Computer Engineering

Thesis: Scenes Visualization in Virtual Reality

Research Experience

SEP 2024 –
DEC 2024

Postgraduate Researcher

Mixed Reality & Interaction Laboratory (MR&I), Sejong University, Seoul, South Korea

- Development of a 3D application for foreigners residing in Korea.
- Trained the CNN facial emotion recognition model for the 3D application.
- Development of the API for the CNN model.

SEP 2022 –
DEC 2024

Research Collaborations

Mixed Reality & Interaction Laboratory (MR&I), Sejong University, Seoul, South Korea

- Worked on Color Blind assistant in Mixed Reality in Intelligent Content Creation Tools for Augmented and Virtual Reality (ICCTARVR) project with the Switzerland research teams of ETH Zürich (Ranked in the top 7 Universities).
- Worked on a Korean language learning application project with the Korean research team of Sejong University.

SEP 2022 –
AUG 2024

Research Assistant

Mixed Reality & Interaction Laboratory (MR&I), Sejong University, Seoul, South Korea

- Development and presentation of an AR/VR application for Color-Blind people to assist them in performing tasks and efficiently identifying objects with different colors in an immersive environment.
- Development and presentation of Virtual Doctor assistant application in VR.
- Development and presentation of the style transfer on videos in VR for emotion Induction.

Awards & Honors

SEP 2022 | 100% Study Scholarship
Sejong University, Seoul, South Korea, for Master's Degree.

Technical Skills

- **Unity:** Development of AR/VR applications.
- **Programming Languages:** C# (for Unity), Python (for AI model training).
- **Artificial Intelligence:** Model training, neural networks (TensorFlow), emotion recognition, AR/VR integration.
- **Data Visualization:** Proficient in LaTeX, and Microsoft PowerPoint.

Areas of Interest

1. **Mixed Reality:** Human-Computer Interaction, AI integration, AR/VR applications
2. **Machine Learning:** Supervised/Unsupervised Learning, Reinforcement Learning, Model Optimization
3. **Deep Learning:** CNNs, RNNs, ANNs, Transfer Learning, Pretrained Models (Keras, TensorFlow)

Symposiums

1. Presentation of the Color Blind assistant in Mixed Reality system in the ICCTARVR project at Sejong University, South Korea, 2023.
2. Presentation of our style transfer technique on 3D videos for emotion induction project at the world IT show at Coex 2023.
3. Presented our Virtual Doctor Assistant project at the world IT show at Coex 2024.
4. Attended Information Technology Research Center (ITRC) workshop at Sejong University, 2023.
5. Poster presentation, "A Diverse Viewpoint and Background Benchmark for Aerial Human Action ", Korean Society for Next Generation Computing, Spring 2023.

Research Publications

1. **Khan, H. A.**, Jamil, S., Piran, M. J., Kwon, O. J., & Lee, J. W. (2024). A Comprehensive Survey on the Investigation of Machine-Learning-Powered Augmented Reality Applications in Education. Technologies, 12(5), 72. Doi: 10.3390/technologies12050072
2. Afzal, S., **Khan, H. A.**, & Lee, J. W. (2024). PlantView: Integrating deep learning with 3D modeling for indoor plant augmentation. Ecological Informatics, 84, 102899. Doi: 10.1016/j.ecoinf.2024.102899
3. Afzal, S., **Khan, H. A.**, Piran, M. J., & Lee, J. W. (2024). A comprehensive survey on affective computing; challenges, trends, applications, and future directions. IEEE access. Doi: 10.1109/ACCESS.2024.3422480
4. Khan, I. U., **Khan, H. A.**, & Lee, J. W. (2024). Dual-Stream Architecture Enhanced by Soft-Attention Mechanism for Plant Species Classification. Plants, 13(18), 2655. Doi: 10.3390/plants13182655
5. Munsif, M., **Khan, H. A.**, Kim, M., Rahimi, F., Parez, S., Lee, M. Y., ... & Lee, J. W. (2023). 공중 인간 행동 인식을 위한 다양한 관점과 배경 벤치마크. 한국차세대컴퓨팅학회 학술대회, 179-182. Doi: Article/A433541
6. Afzal, S., **Khan, H. A.**, Ali, S., & Lee, J. W. (2025, January). Virtual Reality Environment: Detecting and Inducing Emotions. In 2025 IEEE International Conference on Consumer Electronics (ICCE) (pp. 1-4). IEEE. DOI: 10.1109/ICCE63647.2025.10930041
7. Assessing Emotional Induction through AI-Driven Virtual Doctor Consultations, Sitara Afzal, **Haseeb Alik Khan,** Shafqat Ali, Jong Weon Lee. (Accepted).
8. Enhancing the MR Accessibility for Color-Vision Impaired Users, H**aseeb Ali Khan,** Sitara Afzal, Kyungjin Han, Jong Weon Lee, (Under Review).

Languages

English – Fluent
Urdu – Fluent
Pashto – native speaker

References

More references can be provided upon request.

Prof. Jong Weon Lee

- Full Professor and Director of Mixed Reality & Interaction Laboratory (MR&I)
- Department of Software, Sejong University, Seoul, South Korea
- Email: jwlee@sejong.ac.kr

Prof. Oh-young Song

- Full Professor and Director of Graphics Lab
- Department of Software, Sejong University, Seoul, South Korea
- Email: oysong@sejong.ac.kr