



Syed Hammad Hussain Shah

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Address: Åregjerdet 7B, 6018, Ålesund, Norway (Home)

● ABOUT ME

Permanent Resident of Norway

● WORK EXPERIENCE

19/03/2020 – CURRENT Ålesund, Norway

DOCTORAL RESEARCHER NTNU - NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

- Role of Modern Interactive Technologies in Healthcare
- Design Science Research
- Human-Computer Interaction (HCI) Research
- User Research / User Statistics
- Co-design and Development / User-centered Design / Field Testing
- Immersive Technologies (VR / AR / MR / Metaverse)
- Serious Games and Gamification
- Human-Robot Interaction
- Social Robots, Robotics' Application Development
- Artificial Intelligence / Machine Learning / Deep Learning
- Computer Vision / Image Processing / Video Processing / Activity Recognition / Time Series Prediction

Teaching

- [Computer Graphics](#)
- [Immersive Technologies](#)

Skills

- Unity3D, C#, Keras, Tensorflow, OpenCV, Python, Robot Operating System (ROS), Linex, hands-on experience with Oculus Quest, Hololens 2, humanoid robots (Pepper and NAO), and other robotic platforms such as SMART robot base

01/03/2018 – 21/02/2020 Seoul

RESEARCH SCIENTIST SEJONG UNIVERSITY

- Human-Computer Interaction (HCI) Research
- Design Science Research
- UX Research
- Immersive Technologies (VR / AR / MR)
- Interaction paradigms in mixed reality for better human-computer interaction
- Design and development of 4D mixed reality system for air traffic control and management
- User Experiences in 360° virtual reality entertainment
- Computer Vision / Image Processing

Skills

- Unity3D, C#, Keras, Tensorflow, OpenCV, Python, hands-on experience with Oculus Quest, Hololens 2, and Meta 2

Business or Sector Education | **Address** 209 Neungdong-ro, Gunja-dong, Gwangjin-gu, 05006, Seoul |

Website www.sejong.ac.kr

- Development of web applications and management systems
- User-centered design process
- Graphical user interface design and development
- UX Design
- Development of Web APIs, REST APIs, and WCF services

Skills

- .NET (Web forms and MVC), C#, database design and development (Microsoft SQL), No SQL / Entity Framework (ADO.NET), HTML, CSS,

Business or Sector Information and communication | **Website** www.comsats.edu.pk

● **EDUCATION AND TRAINING**

05/03/2018 – 21/02/2020 Seoul, South Korea

MASTER OF COMPUTER SCIENCE (SOFTWARE CONVERGENCE) Sejong University

Address 209 Neungdong-ro, Gunja-dong, Gwangjin-gu, 05006, Seoul, South Korea | **Website** www.sejong.ac.kr |

Final grade CGPA: 4.42/4.5 , Percentage: 98.4% |

Thesis Enhancement of the User Experiences in the 360° Multimedia Entertainment and Air Traffic Management using Extended Reality

02/09/2013 – 23/06/2017 Attock, Pakistan

BACHELOR OF SCIENCE (SOFTWARE ENGINEERING) COMSATS University Islamabad (CUI)

Website www.comsats.edu.pk | **Final grade** CGPA: 3.7/4.0, Percentage: 86.99% (Campus Silver Medalist) |

Thesis Smart Parking

● **LANGUAGE SKILLS**

Mother tongue(s): **URDU**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	B2	C1	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● **ADDITIONAL INFORMATION**

PUBLICATIONS

[An efficient and lightweight multiperson activity recognition framework for robot-assisted healthcare applications](#)

– 2023

Journal Impact Factor: 8.5

Shah, Syed Hammad Hussain, et al. Expert Systems with Applications 241 (2024): 122482.

[A social VR-based collaborative exergame for rehabilitation: codesign, development and user study](#)

– 2022

Journal Impact Factor: 4.2

Shah, Syed Hammad Hussain, et al. Virtual Reality (2022): 1-18.

Towards a Social VR-based Exergame for Elderly Users: An Exploratory Study of Acceptance, Experiences and Design Principles

– 2022

Shah, Syed Hammad Hussain, et al. International Conference on Human-Computer Interaction, Springer.

Multi-Agent System Based Mobile Help Desk and Monitoring of Safety Measures to Combat COVID-19 and Future Pandemics

– 2021

Shah, Syed Hammad Hussain, et al. IEEE - International Conference on Artificial Intelligence (ICAI)

Health Data Management for Nursing Practice: An Intelligent, Holographic Mixed-Reality System –

2021

Shah, Syed Hammad Hussain, et al. International Conference on Human-Computer Interaction, Springer.

Classification of Failures in the Perception of Conversational Agents (CAs) and Their Implications on Patient Safety

– 2021

Aftab, H., Shah, S. H. H., et al. Public Health and Informatics: Proceedings of MIE. IOS Press.

Real-time Application for Generating Multiple Experiences from 360° Panoramic Video by Tracking Arbitrary Objects and Viewer's Orientations

– 2019

Journal Impact Factor: 2.7

Shah, Syed Hammad Hussain, et al. Applied Sciences (MDPI).

Holographic Mixed Reality System for Air Traffic Control and Management – 2019

Journal Impact Factor: 2.7

Han, K., Shah, S. H. H., et al. Applied Sciences (MDPI).

Interaction Paradigms for Air Traffic Control and Management in Mixed Reality – 2018

Shah, Syed Hammad Hussain, et al. International Conference on Human-Computer Interaction, Springer.

Authoring Tool for Generating Multiple Experiences of 360° Virtual Reality – 2018

Shah, Syed Hammad Hussain, et al. International Conf. on Computer Science and its App., Springer.

Multi-agent robot system to monitor and enforce physical distancing constraints in large areas to combat covid-19 and future pandemics

– 2021

Journal Impact Factor: 2.7

Shah, Syed Hammad Hussain, et al. Applied Sciences (MDPI).

RECOMMENDATIONS

Prof. Ibrahim A. Hameed PhD Supervisor

PhD, Professor, Former Deputy Head of Research and Innovation, Norwegian University of Science and Technology (NTNU), Norway

Email ibib@ntnu.no

Link <https://www.ntnu.edu/employees/ibib>

Prof. Jong-Weon Lee Master's Supervisor

PhD, Professor, Department of Software Convergence, Sejong University, Seoul, South Korea

Email jwlee@sejong.ac.kr

Link <https://sejong.elsevierpure.com/en/persons/jong-weon-lee>

ORGANISATIONAL SKILLS

Organisational skills

- Acquired management skills through organizing multiple events in the university and preparation for multiple IT shows
- Served as a President of ACM Student Chapter COMSATS Institute of Information Technology Attock (<http://acmciit.azurewebsites.net/>)

COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills

- Communication skills acquired by working in collaboration with researchers from other departments and due to internal meetings with teams
- Strong presentation skills gained by presenting work at international conference and project demonstrations in workshops as a part of mobile virtual reality research centers (<http://home.sejong.ac.kr/~mvrcenter/>)

JOB-RELATED SKILLS

Job-related skills

- Experience in working with cross-functional teams gained through working with researchers from different backgrounds such as aerospace industry, entertainment industry and healthcare department.
- Solid command of delivering quality software projects earned by working as Software Engineer with multiple research centers.
- Mentoring skills for training the junior researchers acquired by working as a senior research assistant
- Time management skills for delivering software projects on time gathered by working as lead software developer
- Good teaching skills gained through working as Teaching Assistant for multiple courses in my graduate and post graduate studies.
- Project coordination skills obtained by working with members of different departments and research projects

RESEARCH INTERESTS

Research Interests

- Design science research including problem finding, design and testing of the solution, and verifying hypothesis
- Human-Computer Interaction (HCI) research
- UX / User Research
- Co-design and Development / User-centered Design
- Potential use of immersive technologies (XR / VR / AR / MR / Metaverse)
- Applications of social robots in various fields of life such as healthcare, entertainment and industrial applications
- Potential use of serious games and gamification in different applications
- Human-Robot Interaction
- Robotics' Applications
- Artificial Intelligence / Machine Learning / Deep Learning
- Computer Vision / Image Processing / Video Processing / Activity Recognition / Time Series Prediction
- Interdisciplinary research

CONFERENCE PARTICIPATION & EXHIBITION

28/08/2023 – 31/08/2023

IEEE International Conference on Robot and Human Interactive Communication (IEEE RO-MAN)

The IEEE RO-MAN is a well-known conference focused on “Design a New Bridge for H-R-I”, with [H] for Human Health, Happiness and Hope, [R] for Robotic Recovery and Reconnection, and [I] for Intelligent Interface and Interaction. Also, the conference covers diverse topics related to Robot and Human

Interactive Communication involving theories, methodologies, technologies, empirical and experimental studies. IEEE RO-MAN 2023 was held in Busan, South Korea.

17/10/2022 – 21/10/2022

IEEE International Symposium on Mixed and Augmented Reality (ISMAR)

The IEEE ISMAR is the leading international academic conference in the fields of Augmented Reality and Mixed Reality. The symposium is organized and supported by the IEEE Computer Society, IEEE VGTC, and ACM SIGCHI. IEEE ISMAR 2022 was held in Singapore.

Link <https://ismar2022.vgtc.org/>

17/12/2018 – 19/12/2018

10th International Conference on Computer Science and its Applications (CSA 2018)

CSA is one of the most comprehensive conferences focused on the various aspects of advances in computer science and its applications. CSA 2018 was held in Kuala Lumpur, Malaysia.

Link <http://csa-conference.org/2018/>

18/02/2018 – 20/12/2019

World IT Show

Participated as exhibitor in multiple IT shows during the years 2018 and 2019 held at COEX Mall, Seoul, South Korea

Link <http://www.worlditshow.co.kr/eng/>
