

Hamid Ashfaq

Lecturer, Researcher and Developer

Areas of Expertise: Computer Vision - 3D Reconstruction - Robot Perception - App Development

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Birth Year: 1994 — Nationality: Pakistani — Languages: English, Urdu, Punjabi

in/hamid-ashfaq researchgate.net/profile/Hamid_Ashfaq GoogleScholar Website



Profile

I am a dedicated academic and technology professional with extensive experience in both industry and research. My expertise spans gaming, AR/VR, IoT systems, and full-stack development for web, mobile, and desktop applications. I hold a Master's degree in Artificial Intelligence, specializing in 3D object reconstruction and geometric understanding through advanced computer vision and deep learning techniques. My research focuses on **real-world applications in virtual/augmented reality, robotics, computer vision, deep learning and digital twin**. Currently, I am a **Lecturer**, developer, and active researcher with special interest in computer vision, machine learning, Deep learning, robotic perception, 3D vision, and real-world AI systems.

Professional Experience

Lecturer, Sir Syed CASE Institute of Technology

Islamabad, PK Sep 2023 - present

Course Instructor and Lab Instructor

- Digital Image Processing
- Smart App Development (Flutter)
- Artificial Neural Network Lab
- Computer Vision
- Compiler Construction
- Computer Vision Lab

Lab Engineer, Sir Syed CASE Institute of Technology

Islamabad, PK Sep 2021 - Sep 2023

Lab Instructor

- Data Structure and Algorithm
- Machine Learning
- Artificial Neural Network
- Object Oriented Programming
- Visual Programming
- Computer Vision

MS Scholar / Research Associate, Intelligent Media Center (IMC)

Islamabad, PK Nov 2020 - Sep 2023

MS Thesis Title: Automatic 3D Estimation and Deep Geometry Understanding using Voxelization of Point Cloud

Description: I used image processing and deep learning techniques to extract features from an image and reconstruct its 3D representation, visualized as meshes, point clouds, and voxels. This has applications in VR/AR, Robotics, and development.

Lead Trainer, Center for Advanced Research in Engineering (CARE)

Islamabad, PK Oct 2022 - Jan 2023

Lead trainer (Bootcamp-Flutter Mobile Application Development)

- Programming Fundamentals, Data Structures and Algorithms.
- Flutter App Development from basic to advanced.

Software Developer, Mechatronix

Islamabad, PK Jul 2020 - May 2021

- ASP.NET/C# Web/Windows Application Development.
- Configuration of Biometric,RFID devices and UVSS.
- MS SQL Database Development.
- Testing (Web, Windows and Server application).
- SDK Configuration with Suprema Core-Station
- Documentation.

Resource Person/ Lecturer, Allama Iqbal Open University (AIU)

Islamabad, PK Aug 2017 - Jun 2020

- Taught courses related to the field of Computer Science, Mathematics and Physics.

Education

Masters of Science in Artificial Intelligence, Air University

Islamabad, PK 2020-2023

Thesis: Automatic 3D Estimation and Deep Geometry Understanding using Voxelization of Point Cloud. **EQF Level: 7**

Bachelor of Science in Computer Science, HITEC University

Taxila, PK 2013-2017

Thesis(Virtual Personal Assistant): Personal manager software manages time and meeting schedules on Windows and Android Platform. Controlled using voice/text Commands. **EQF Level: 6**

Journal, Conferences Book(Chapters) and Reviews

- [J1] **H. Ashfaq** et al., "3D point cloud generation to understand real object structure via graph convolutional networks," *Trait. Du Signal*, vol. 41, no. 6, pp. 2935–2946, 2024. <https://doi.org/10.18280/ts.410613>.
- [J2] S.A.Chelloug, **H. Ashfaq** et al., "Real objects understanding using 3D haptic virtual reality for e-learning education," *Computers, Materials & Continua*, vol.74, no.1, pp. 1607–1624, 2023. <https://doi.org/10.32604/cmc.2023.032245>.
- [C1] **H. Ashfaq** and A. Jalal, "3D Shape Estimation from RGB Data Using 2.5D Features and Deep Learning," *2023 IEEE 4th ICACS*, Lahore, Pakistan, 2023. <https://doi.org/10.1109/ICACS55311.2023.10089663>.
- [C2] **H. Ashfaq** and A. Jalal, "GCN-Based Objects Understanding with 2D to 3D Point Cloud Reconstruction," *2023 IEEE 20th IBCAST*, Murree, Pakistan, 2023. <https://doi.org/10.1109/IBCAST59916.2023.10712925>.
- [C3] **H. Ashfaq** and A. Jalal, "Deep Learning-based 3D Reconstructed Objects via Generative Models and Octree Structure,"

2023 IEEE 20th IBCAST, Murree, Pakistan, 2023. <https://doi.org/10.1109/IBCAST59916.2023.10712837>.

[C4] U. Shakeel, A.Ejaz and H. Ashfaq et al., "SyncFit: AI-Powered Mobile eCommerce Application Utilising AR for Virtual Clothing Fitting," *IEEE ASDSA 2025*, Antalya, Turkey, 2025. (Accepted).

Book: Introduction to Open Educational Resources (5916)

Unit 1: Nature of Open Educational Resources (Writer) **Unit 3:** Benefits of Open Educational Resources (Reviewer)

Unit 2: History of Open Educational Resources (Writer)

Book: Trends and Issues in Instructional Design (5917)

Unit 3: Management Issues in Instructional Design (Writer) **Unit 4:** Crafting the Art of Communication (Writer)

Editorial and Reviewing Activity

- *International Journal of Computer Theory and Engineering*, 2025 – Reviewer
- *International Joint Conference on Neural Networks*, Rome, Italy, 2025 – Reviewer

Projects

- **Projects (Windows and Web):** Developed person and vehicle access control systems using RFID and biometric devices for various government and private organizations.
- **Reach K (Android Game):** Personal project published on the Google Play Store, built using Unity 3D. A tile-swapping and merging game (currently unavailable due to changes in Google policies).
- **Lotte Kolson POS:** Point of Sale (POS): Developed a Windows application for a retail shop using C# and Oracle(SQL).
- **Freelance Projects (Designer):** Designed various logos,Uls for freelance projects using Photoshop, Figma and canva.
- **Developed various websites**, including ScreeningMCQs.com, WeightlosBlog.com, DriventoExplore.com

Trainings and Courses

- Python (3rd Jun 2021) - [Kaggle \(Online\)](#).
- Python Introduction to Data Science and Machine Learning (20th Mar 2021) - [Udemy \(Online\)](#).
- Python-3 Boot Camp in GUI for Beginner (18th Mar 2021) - [Udemy \(Online\)](#).
- Getting started with Decision Trees (Online Course) (9th Feb 2021) - [Analytics Vidhya](#).
- Training on Challenges of Entrepreneurial Growth (10th May 2018) - [DWE](#).
- Change Management (5th Apr 2018) - [DWE](#).
- Training on Conflict Management (21st Sep 2017) - [DWE](#).
- Training on Total Quality Management (14th Sep 2017) - [DWE](#).
- Workshop on Panda Gate Defender eSeries Version 5.5 (11th Nov 2014) - [Panda Security](#).

Achievements and Certifications

- Certificate for Dedication and Service to IT Industry Readiness (8th Jun 2023) - [TechLift / P@SHA](#).
- Clear the assessment for Python (3rd Jun 2023) - [HackerRank](#).
- Clear the assessment for SQL (3rd Jun 2023) - [HackerRank](#).
- 4th International Conference on Advancements in Computational Sciences (Author) (20th Feb 2023) [ICACS 2023](#).
- HITEC Sports Fest 16&17 Chess (Event Head) (20th Dec 2016) - [HITEC University](#).
- Certificate of Excellence for Participation in On Spot Programming Competition (12th Nov 2016) - [Visio Spark 16](#).
- HITEC Decor Club (Organizer) (14th May 2016) - [HITEC University](#).
- Certificate for Participation Sci-Tec 14 (3rd Mar 2015) - [HITEC University](#).

Skills and Additional Information

- **Software and Tools:** Visual Studio, Android Studio, Pycharm, Google Colab, Jupiter Notebook, VS Code, Unity 3D, Figma, Canva, Dreamweaver, Photoshop, Illustrator, Flutter(Dart), WordPress, Microsoft Office and LaTeX(Tex).
- **Programming / Scripting Languages:** Python, C#, C/C++, JavaScript, PHP, Ajax, HTML, CSS, XML and SQL.
- **Soft Skills:** Presentation, Planning, Organized, Creative, Problem-Solving, Teamwork, Active Listening, Adaptability, Analytical Thinking, Time Management, Leadership, Conflict Management and Logic Building.
- **Languages:** English [IELTS Score: 6.5], Urdu [Native], Punjabi[Native].
- **Hobbies:** Chess, Traveling, Hiking.