

## Abstract Title:-

### Digital Innovations to Integrate Technology with Behavioral Science

**Keynote Speaker – Ahmad Othman Rushdy Alhashlamoun –  
Independent Researcher**



#### **Abstract:**

This project presents a digital innovation that integrates **Virtual Reality (VR)**, **Augmented Reality (AR)**, and **Artificial Intelligence (AI)** with principles of **Applied Behavior Analysis (ABA)** to create a comprehensive intervention and monitoring system to support children with **Autism Spectrum Disorder (ASD)**. The system combines advanced tools such as a **biometric wristband** to capture physiological indicators, **interactive digital games** to teach daily living and social skills, and **AI-based analytics** to interpret behavior and estimate emotional state.

Through immersive yet safe virtual environments, children can practice communication, sensory discrimination, and social interaction within realistic simulated scenarios, reinforced through ABA-based reward systems. In parallel, the platform provides caregivers and professionals with structured monitoring and assessment tools, enabling personalized interventions aligned with each child's needs. This project highlights how digital technologies can reshape behavioral therapy and rehabilitation by combining behavioral science with modern technological innovation, offering new pathways to enhance quality of life, independence, and social inclusion for children with ASD.

#### **Keywords:**

Virtual Reality • Assistive Technology • AI-Driven Behavioral Intervention • Digital Behavioral Analytics • Autism Supportration

#### **Learning Objectives**

By the end of this session, participants will be able to:

- **Describe** key principles and theoretical foundations for integrating immersive technologies (VR/AR) and Artificial Intelligence in behavioral interventions for individuals with ASD.
- **Identify and apply** biometric emotion-tracking tools (e.g., wristbands measuring physiological indicators) to monitor affective states in therapy or educational settings.

- **Design** a prototype digital intervention using VR/AR, AI tools, digital games, or biometric feedback to strengthen communication, daily living skills, or social interaction in children with autism.
- **Evaluate** feasibility and effectiveness of immersive technology-based interventions by considering ethical, technical, and behavioral performance indicators.
- **Discuss critically** the benefits, limitations, and practical challenges of AI-driven immersive interventions and propose appropriate implementation strategies.

### **Short Professional Biography:**

Ahmad Hashlamoun is a developer and researcher specializing in the integration of technology with behavioral psychology. His work focuses on creating interactive digital tools to support children with ASD, including smart emotion-tracking bracelets, digital learning games, and VR/AR environments that enhance communication, learning, and social skill development. He applies AI and objective behavioral data to improve monitoring and individualized support systems for children, families, and specialists. Ahmad has contributed to achievement-driven initiatives aimed at advancing the use of technology in mental health and continues to develop tools that improve therapeutic outcomes and accessibility.