Amir Mohideen Basheer Khan

amirmohideen99@gmail.com | 562-526-4146 | linkedin.com/in/amir99 | github.com/amirmohideen | bio.site/amir99

EDUCATION

California State Polytechnic University, Pomona — *Jan 2023 - Present*
Master of Science in Computer Science | GPA: 4.0 — *Los Angeles County, California, USA*

American University of Sharjah — *Aug 2017 - Jan 2022*
Bachelor of Science in Computer Engineering — *Sharjah, UAE*

Purdue University Fort Wayne — *Jan 2020 - May 2020*
Bachelor of Science in Computer Engineering — *Indiana, USA*

WORK EXPERIENCE

Google - Product Tester for Google Gen AI Usability Research Study — *25 September 2023*

- Collaborated with 12 Google employees over an 8-hour research session to test Google's **GenAI LLM** product, MakerSuite, providing actionable feedback.

Cal Poly Pomona - Research Assistant - VR (Virtual Reality) **+ BCI** (Brain Computer Interfaces) **-** (https://youtu.be/wghtOic6b5M) — *June 2024 – Present*

- Collaborated with a multidisciplinary team to develop a **VR eVTOL flying simulation** funded by the **U.S. Air Force**, leveraging Unity, XR Interaction Toolkit 2.0, and Gaia Pro to create immersive environments and enhanced simulation realism by optimizing flight physics parameters using the Silantro toolkit
- Integrated real-time physiological and neurological **data collection into Unity** using Biopac Ring (EDA, ECG, PPG, skin temperature) and Emotiv headset (brainwaves) via Lab Streaming Layer (LSL), enabling enhanced user experience evaluation by **visualizing metrics in VR** simulation
- Implemented multi-angle camera views within the cockpit using textures, improving situational awareness for enhanced flight simulation experiences
- Achieved **significant VR performance optimization** for heavy environments by **reducing polycounts** to 233k using **occlusion culling**, disabling shadows, **modifying rendering pipeline** settings, and performing **light mapping**, resulting in smoother user experiences on XR headsets
- Tested and optimized the simulation for Meta Quest 2, Pro, 3, and 3s XR headsets, resolving compatibility challenges
- Designed a motion sickness assessment framework to evaluate the feasibility of eVTOL deployment providing data-driven insights for public adoption
- Conducted an in-depth literature review of 40 academic papers, shaping the project's development strategy and contributing key insights for a publication

Cal Poly Pomona - VR/AR Lab Assistant & Technical Instructor (https://youtu.be/3YJtp8Crjik) — *September 2024 – Present*

- Conducted 4 immersive XR workshops (2 hours each), **equipping 54 students with Unity** skills for VR game & app development and **recruiting 20 students**
- Mentored and collaborated weekly with 5 teams (4 members each) on innovative XR game & app development, providing technical guidance, fostering problem-solving, and promoting best coding practices

Rizek, Dubai, UAE - IT Intern (UI/UX Design) — *June 2019 – August 2019*

- Conducted usability analysis and performed a **UI/UX redesign**, resulting in an increase in user engagement and retention for their mobile app by 13%

PROJECT EXPERIENCE

XR Mind Mapping App - Brainstorm ideas and work on them in MR/VR - (https://youtu.be/ADThSN3S60g) — *June 2024 – Present*

- Developed an interactive Mixed Reality (**MR**) **spatial mind mapping** app using XR Interaction Toolkit (**XRITK 3.0**), implementing a **custom input controller** that allowed users to create notes, open browsers, and connect nodes using controllers or hand tracking, enhancing brainstorming efficiency
- Designed and **implemented dynamic connections** that update positions based on note movements and **recursively delete connections** from the scene and from the stored JSON data, streamlining user interactions and improving app usability
- Developed a **robust load/save system** for note and connection configurations as **JSON** files, enabling seamless mind map saving and retrieval
- Integrating a speech-to-text system connected to a Large Language Model (**LLM**), enabling users to create **procedurally generated content** within the VR environment, enhancing creative workflows.

Additional

- Developed an immersive **VR/AR Birthday/Anniversary Experience app** in Unity for Meta Quest 3, optimizing Universal Render Pipeline (**URP**) and build settings to enhance performance and user experience, currently launching on the Meta Quest App Store (https://youtu.be/07rKWHxRN2g)
- Developing an **XR Book Reading app** that immerses users in 3D environments powered by **GenAI**, transforming text that users read into visual narratives
- Collaborated with a team of 4 on **GitHub** to develop a **3D gravity-shifting game** in Unity, enhancing gameplay with custom materials, textures, and **shaders** to create visually compelling lava effects during **level design** (https://youtu.be/8yI6fGXxj3U)
- Created a **Python automation** script leveraging **YouTube Data API v3** to format, schedule, and publish 100 short videos daily (youtu.be/3qAJrQKENy8)
- Built an automotive watch brand in **Shopify** using **HTML, CSS, JavaScript** and collected **$20K** in revenue with **60% profit** via organic **digital marketing**

PUBLICATIONS & AWARDS

- "Towards Automating Social Distance Violations Using AIoT". ***2021 IEEE*** *6th International Forum on Research and Technology for Society and Industry (RTSI), pages: 524-528*

SKILLS

- **Technical:** Unity, C#, XR Interaction Toolkit 3.0 & 2.0 (XRI), OpenXR, MRTK (Mixed Reality Toolkit), Oculus SDK, Python, Java, C++, Blender, Figma, Final Cut Pro, Adobe Photoshop
- **Conceptual:** Virtual & Augmented Reality, Game Development, 3D Modelling, Software Engineering, Design Patterns, OOP
- **Soft:** Leadership, Communication, Creative Facilitation, Problem-solving, Analytical Thinking, Rapid Prototyping, Cross-functional Collaboration