



## Research Assistant - Software: Virtual/Augment Reality Developer

The Institute of Technology Tralee has established a world-class research centre in the area of Intelligent Mechatronics and Radio-frequency identification (RFID) i.e. The Intelligent Mechatronics and RFID Centre [The IMaR Centre].

The principal theme of the **IMaR Research Centre** is the synergy between mechatronics, Sensors, RFID, Internet of Things (IoT) and Data Analytics for industrial applications driven by new technology, innovation and global demand. IMaR consists of two research strands **Intelligent Mechatronics** and **Industrial IoT & Data Analytics** both focused on the delivery of a wide range of automation, identification and manufacturing services. The overall mission of the IMaR Centre is to be industries partner of choice for the provision of innovative applied research. The IMaR Centre will serve a cross section of industries including Automotive, Telecommunications, Pharmaceutical, Production / Manufacturing, Retail, Aeronautical, Environmental, healthcare and Agri-business.

IMaR is core funded by Enterprise Ireland under the Technology Gateway Programme to provide industry engagement and support of Irish industry.

IMaR is currently recruiting for a research assistant in software development with skills in games development, multimedia programming or design or who will take on an exciting role in the development and use of virtual and augmented reality for online customer and consumer interaction.

## Position

We are looking for a highly motivated, Research Assistant to join the research team at IMaR. The successful candidate will collaboratively work and contribute to a cutting edge research project in the Retail domain.

## Minimum Qualifications

- Degree in Computer Science/ Computing/ Games Development/ Multimedia programming/ Design or equivalent
- MSc desirable

## Job Requirements/ Experience/ Skills:

We are particularly seeking a person who possesses the following attributes/ skills:

- Minimum of 2-3 years' experience working with VR/ AR
- Strong interpersonal, teamwork and communication skills (both verbal and written)
- Proven ability to work in a team
- Experience in planning, designing and implementing features that focus on user interactions using development tools such as Unity
- Understanding UX design process and experience working with UX design teams



- Experience in the application of virtual/augmented reality approaches for improved customer experience (in particular in the retail sector)
- Experience in understanding customer requirements and ensuring they are translated into an immersive and interactive customer and user experience
- Working knowledge of HMD (i.e. Oculus, HTC Vive, HoloLens)
- Experience developing or modifying game engines (Unreal, Unity etc)
- Website maintenance/ development experience
- Demonstrated experience and capability of working in close co-operation with stakeholders
- Knowledge of and experience in use of other tools to develop training content- e.g. use of 360 Cameras, Drones etc. to design and develop engaging and immersive content
- AR: Object recognition, acquisition, tracking, rendering
- AR: integrating with existing AR platforms like Vuforia, Wikitude, Metaio Unity and Unreal Engine
- Knowledge of WebGL, HTML5, CSS3 and JavaScript, Python, C#
- Experience integrating HTML within Unity (ie Coherent UI, Colibri)
- Experience in developing quality, scalable and robust code including Unit Testing
- The ability to create, maintain and update detailed software architecture documentation
- Proven ability to analyze technical software development/design issues and manage them to resolution
- Excellent analytical and problem solving skills, an ability to understand complex problems and generate appropriate pragmatic technical solutions

## Desirable Skills:

- Experience with Magento Framework
- Knowledge or experience with SCRUM or Agile methodologies.
- Working knowledge of Computer aided design software (AutoCAD or AutoCAD LT software)
- Experience with GPU- backed graphics library (i.e. Vulkan, Open GL, Direct3D, Mantle, Metal)
- Knowledge of Machine learning / Computer Vision

## Job Responsibilities:

- Research and evaluate the commercially available VR/AR hardware and software used in retail shopping online and in physical locations/shops now and in the future
- Develop a list of specifications and capabilities around connectivity, object recognition, 3D rendering, and stability on mobile platforms for the solution
- Conduct research into the appropriate level of 360° image augmentation and graphic rendering which can be achieved with available viewing hardware
- Develop a VR/AR system/ platform and demonstrate how this can be scaled to allow immersive viewing, interaction and shopping
- Development of AR models of products
- Identify an overall set of requirements to support a complete translation of existing product presentation and marketing strategies to an immersive VR/AR system.
- Create a pre-production/ pre-operational representation of the interactive VR/AR platform to determine efficient resource deployment, test platform's design and functionality, ensure system's viability, and reduce development risks.
- Quickly create and iterate on prototypes showcasing new designs and interaction patterns
- Develop technical documentation for the project including software architectural documentation.
- Provide progress reports to the Project Lead and the wider project team on an ongoing basis

## Duration of Contract

2 years

## Salary

An attractive salary will apply to this post, dependant on employee experience and qualifications.

## Application Procedure

All applications must be made online at [www.ittralee.ie](http://www.ittralee.ie)

## Informal Enquiries

Informal enquiries ONLY may be addressed to Prof. Joseph Walsh, email: [joseph.walsh@staff.ittralee.ie](mailto:joseph.walsh@staff.ittralee.ie)

**Closing date for applications is 12.00 noon on Wednesday 22<sup>nd</sup> July 2020**

**Applications received after the closing date will not be accepted.**

