

# Exploring Large Language Models for Personalized Content Generation in VR/AR Environment

We invite applications from candidates with backgrounds in Virtual Reality/Augmented Reality (VR/AR) technologies, Artificial Intelligence (AI), Machine Learning, or Computer Vision.

## PhD Topic Summary

This PhD research focuses on the integration of Large Language Models (LLMs), and emerging Virtual Reality (VR) and Augmented Reality (AR) technologies, for example, Meta Quest 3 and Apple Vision. The project aims to create highly personalized, dynamic, and interactive content within VR and AR environments. By harnessing the capabilities of LLMs in conjunction with the strengths of VR/AR technologies, this research seeks to enhance user interaction and content personalization in virtual settings, offering groundbreaking improvements in realism, engagement, and user experience.

## Background

The rapid advancement in VR and AR technologies has opened up new possibilities for immersive experiences. However, creating dynamic and personalized content that adapts in real-time to user interactions remains a challenge. The integration with the natural language understanding and generation capabilities of LLMs, holds the potential to overcome these challenges. This research proposes a novel approach by combining these technologies to address the current limitations in personalization and interaction within VR and AR environments.

## Aims of this PhD

The primary aims of this PhD research are:

- To develop an innovative framework that integrates LLMs for enhancing personalized content generation in VR and AR environments.
- To develop the fine-tuning a Custom Large Language Model specifically for VR/AR applications, enhancing its ability to generate personalized and context-aware content that resonates with users in specific domains.
- To evaluate the impact of this integration on user experience, including personalization, engagement, and satisfaction, through comprehensive user studies and performance analysis.

- To contribute to the academic and practical understanding of integrating with LLMs in VR and AR settings, addressing technical challenges such as scalability, real-time interaction, adaptability, and ethical considerations.

**Contact:** For informal enquiries about this PhD, please contact:

Dr Yongjun Zheng, [y.zheng20@herts.ac.uk](mailto:y.zheng20@herts.ac.uk)

***References :***

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