# Emotion Recognition in VR with Advanced AI

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Motivation

To understand the emotional impact of certain interactions on team members or audiences whether at work or in an artistic setting, we need a tool that keeps users immersed while providing accurate emotion detection. By coupling the immersive experience of VR with advanced emotion recognition AI, we can accomplish this.

Implementing Emotion Recognition in VR
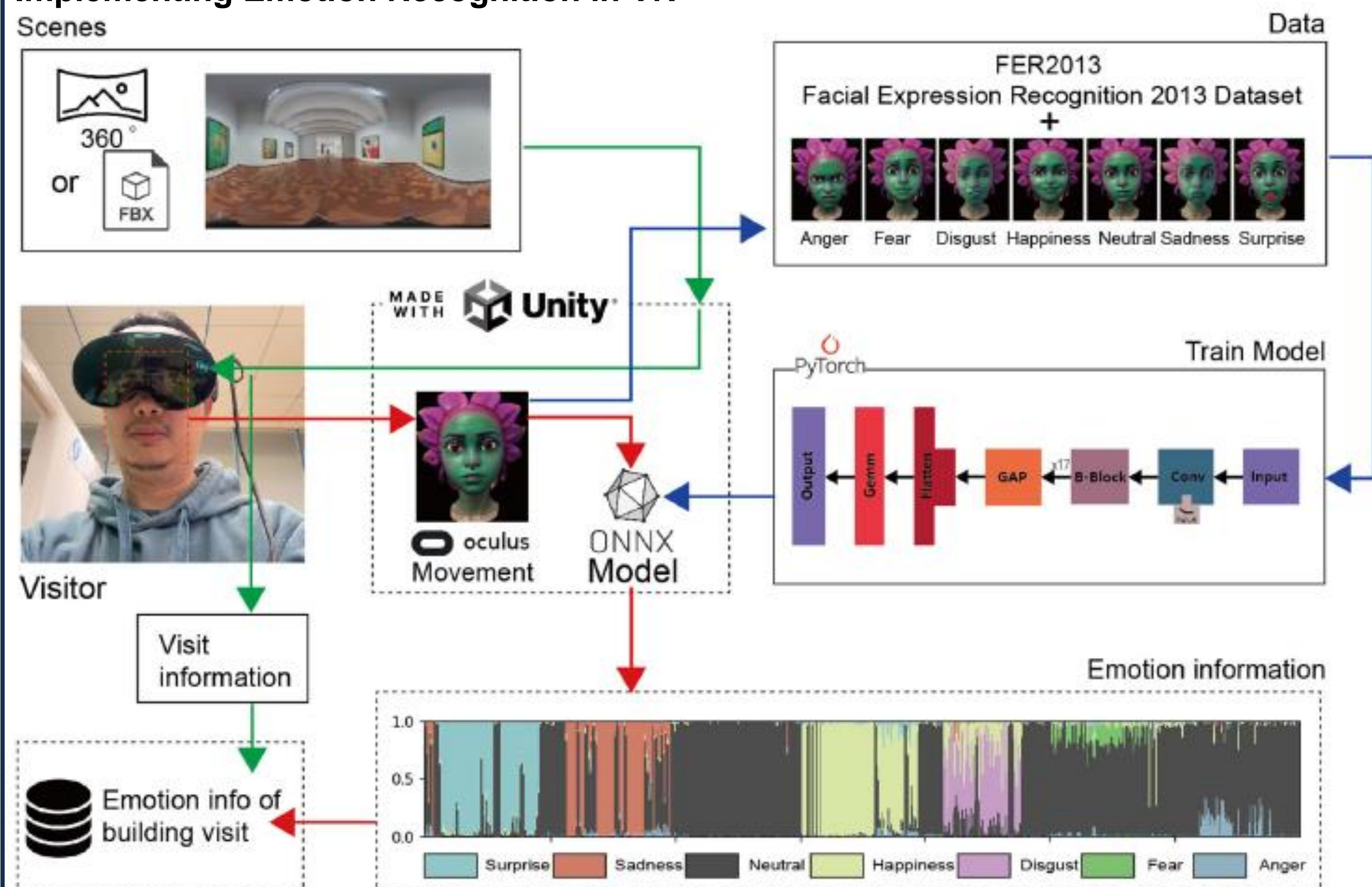
To demonstrate the joining of VR and emotion recognition AI, we are using Unity to capture and display a person's facial expressions under a Meta Quest Pro headset in real time. Using Unity's Barracuda package, we are able to integrate machine learning models in ONNX format into the virtual environment and run inference on the captured facial expressions.

Emotion Datasets

We are training models using PyTorch on three different types of labeled data: images of human faces, landmarks, and images of avatar faces. Using fer-2013, a dataset of 30,000+ images classified by emotion, as our dataset of human face images, we transform it to create the landmark and the avatar face images datasets.

Our goal is to determine which of the three datasets train a model that is most accurate and best performing when running emotion recognition inference within VR.