

# Oscar Meunier



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✳ Portfolio

## WORK EXPERIENCE

### Internship - Research Assistant

**School of Computer Science, University of Glasgow**

February 2023 - June 2023

Created motion capture system in **Unreal Engine (UE)** for measuring degree of embodiment in **Virtual reality**:

- Setting up the *Rokoko SmartSuite II* mocap suit and networking with UE.
- Mapping movements from the suit to a character in UE in real time to create a sense of embodiment.
- Developing a method of measuring drift of the suit using **C++** with data analysis using Python.
- Writing Documentation for the system.

This experience developed my skills in VR, C++ and simulation. I also developed a better understanding of how to use sensors effectively.

### Software Engineer

**GU Orbit**

September 2022 - April 2023

Developed satellite image-generating software to create datasets that could be used for latter training:

- Curating appropriate **sentinel & Landsat datasets**.
- Developing a **GAN** and **diffusion model** using **Python**
- Defining metrics for **benchmarking** different models.

This experience gave me a better understanding of data analysis and visualisation for practical purposes.

### Internship - Design Engineer

**ZLX Technology**

January 2022 - November 2022

I designed an robot using **Solidworks, CAD**:

- **Selecting** components and designing the full mechanism in accordance.
- Producing **engineering drawings** to **manufacturers**
- **Generating realistic images** and a leaflet to demonstrate use to potential investors.
- Performing **FEM Analysis** to find structural weaknesses

This experience allowed me to develop my **prototyping abilities** and understand the operations of a **start-up**.

## EDUCATIONAL BACKGROUND

### MSc, Robotics and Artificial Intelligence

University of Glasgow, UK

2022 - 2023

- Dissertation: "Mixed Reality for Remote Operations"

### BEng, Mechanical Engineering with Aeronautics

University of Glasgow, UK

2019 - 2022

- Dissertation: Drone Biomimicry

## PROJECTS

### Mixed Reality Operations

Allowing remote operations using Mixed Reality through the HoloLens 2. Using Unity 3D, I integrated robot, a HoloLens device, and simulated models. This project system the visualization and control of a robotic platform.

### Competition - ICRA 2023

Manufacturing Robotics Challenge where our team secured 2nd place. The goal was to use a robotic gripper to build a Jenga tower. We used a stereoscopic camera to locate blocks in space and differentiate colours.

### Tracking Camera

Built an embedded systems, real-time face-tracking camera using a Raspberry Pi and two motors. This meant creating parts using CAD and 3D printing, developing a user interface with Qt, and making a tracking system using OpenCV and C++.

## SKILLS

### Languages

- French: Native
- English: Native

### Software & programming

Python, Git/Github, Linux, C#, C++, ROS, Unity 3D, Unreal Engine, CAD, MATLAB, JavaScript, HTML, CSS