# Computer Graphic II
# Assignment 3

Your Name
Your Strudent ID

**Deadline: December 5th, 23:59**

## Objective

The goal of this assignment is to develop or reproduce a single LiDAR-based motion capture model using the LiDARCap dataset (Visit Official Website). The specific objectives are as follows:

1. Familiarize yourself with the structure of the LiDARCap dataset (LiDARHuman26M).
2. Design and implement a motion capture model, either by reproducing the LiDARCap method or by proposing an innovative solution.
3. Provide a detailed explanation of the algorithm's implementation, supported by documentation.
4. Submit the complete code, including training, testing, and evaluation scripts.
5. Evaluate the performance of your model, including quantitative metrics (e.g., MPJPE, MPVPE, Angle Error) and qualitative results (e.g., visualizations).
6. Analyze and discuss the results, highlighting strengths and weaknesses.

## Assignment Requirements

Here we provide an example:

1. **Introduction**: Briefly introduce the background of motion capture, the significance of LiDAR-based motion capture, and the objectives of this assignment.
2. **Methodology**: Describe the algorithm and implementation in detail, including data preprocessing, model design, and training process.
3. **Experiments**:
    - Experimental setup and environment.
    - Description of the dataset and data split strategy.
    - Performance evaluation metrics.

4. **Results and Analysis**:
    - Quantitative evaluation metrics (presented in tables) and corresponding analysis.
    - Qualitative evaluation through visualization (e.g., reconstructed motion frames, videos).
    - Discussion of strengths and limitations of the results.
5. **Conclusion and Future Work**: Summarize the key findings and challenges encountered in this assignment. Briefly discuss potential future improvements.

# Evaluation Criteria

- Algorithm Implementation (30%): The correctness and reasonableness of the model implementation.
- Experimental Results and Analysis (30%): Completeness of evaluation results and depth of analysis.
- Report Quality (20%): Clarity of writing and adherence to formatting guidelines.
- Innovation and Insight (20%): Additional innovations or in-depth analysis beyond reproduction.