

VIRTUAL PANNING FOR LECTURE ENVIRONMENTS

Problem

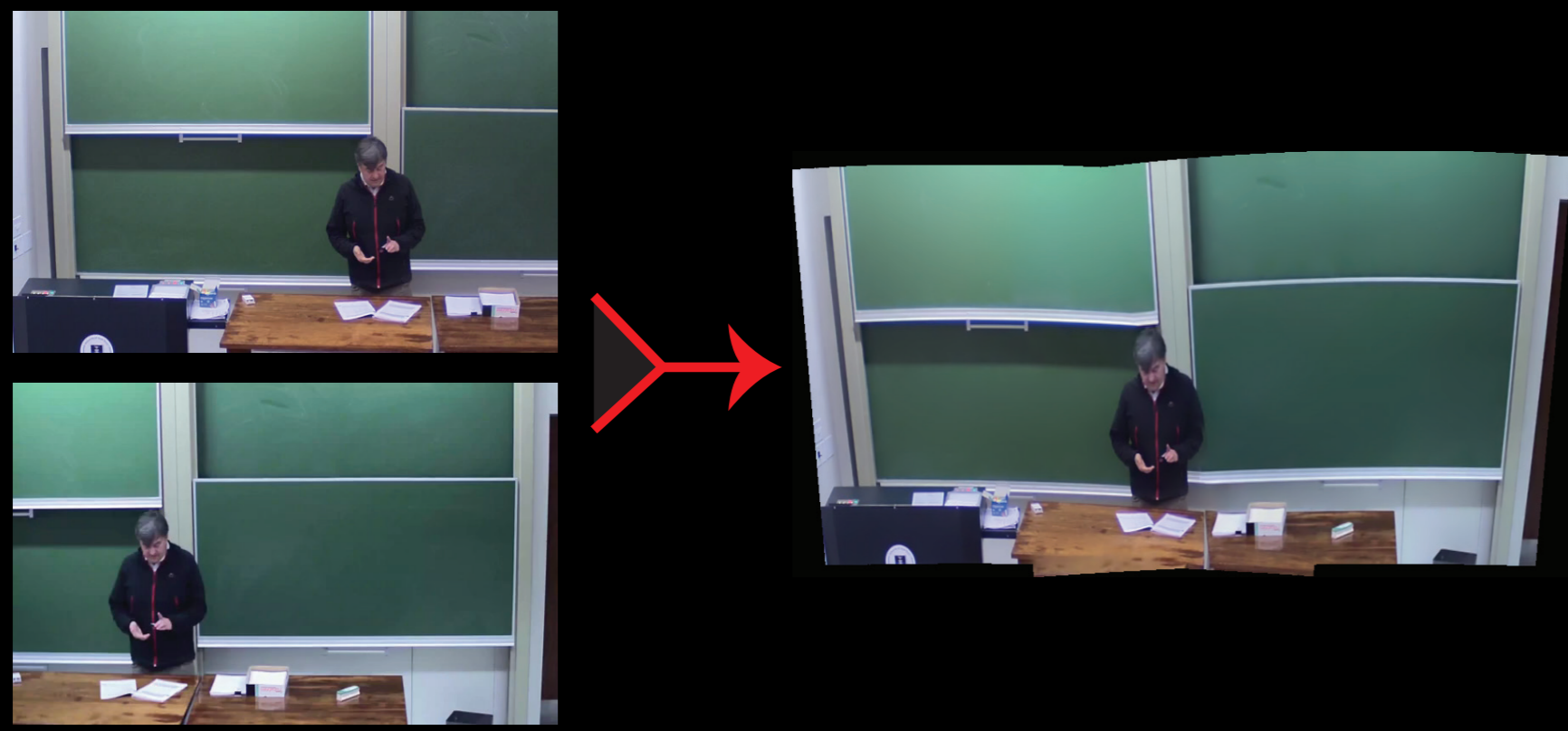
Automated lecture recordings enhance learning, but most solutions use **proprietary software** and **expensive equipment**, thus they are **neither open-source** nor **cost-effective**.

Aim

Create a **cost-effective** automated lecture recording solution that is **cheaper** than **existing solutions** and is **qualitatively comparable** to a **manual cameraman** recording.

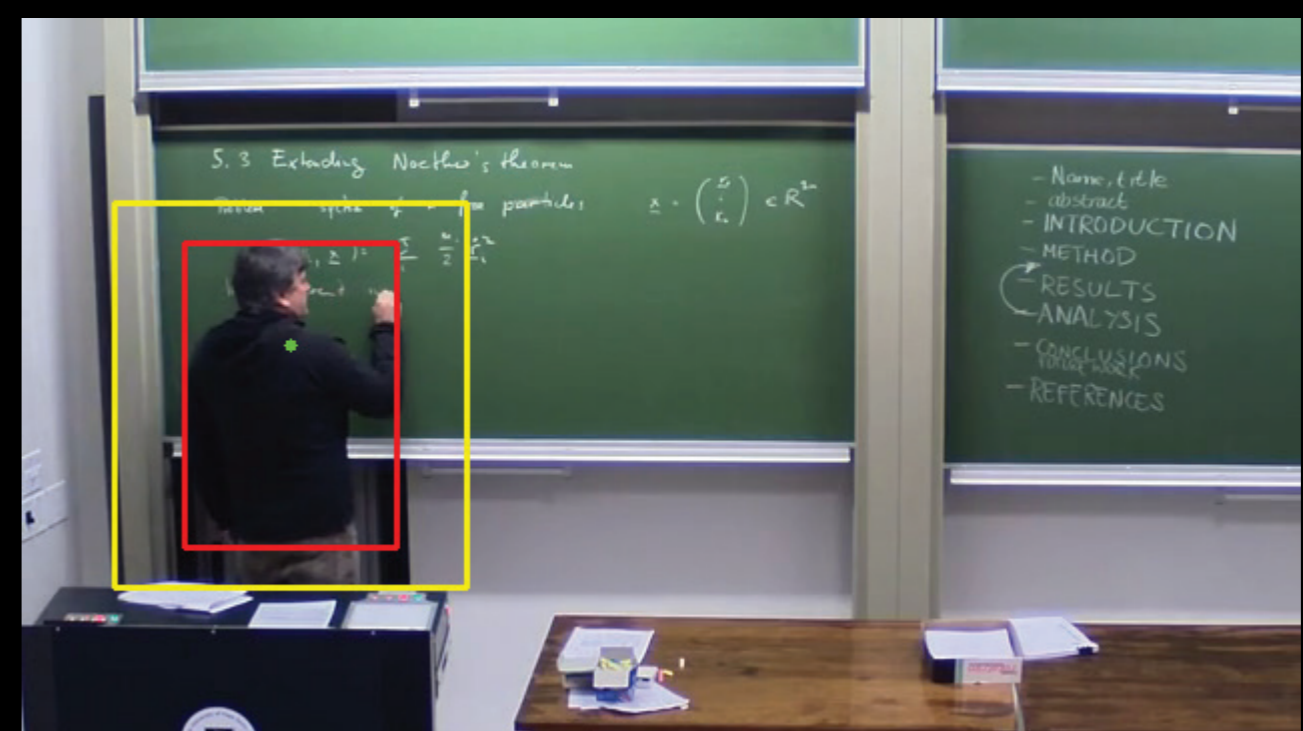
Stitching

Input: Two or more recorded videos
Process: Stitches all the videos together to create one video
Output: One stitched panoramic video



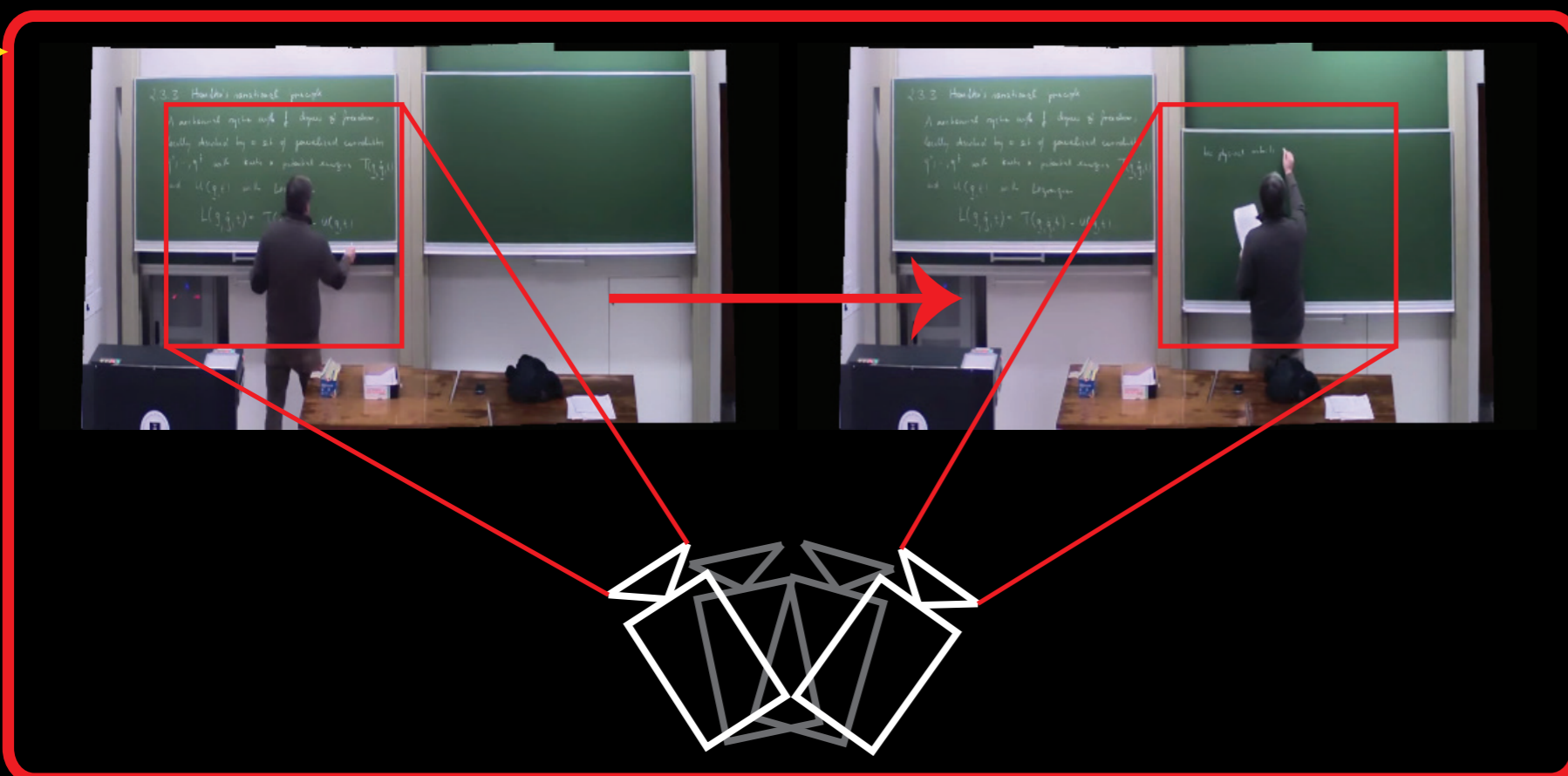
Tracking

Input: Stitched panoramic video
Process: Identifies presenter in video
Output: List of coordinates in a text file



Panning

Input: Stitched panoramic video and tracking data
Process: Creates a cropped frame centred on the presenter
Output: Cropped video



Conclusion

- **Stitching** produces good enough results for viewing text on blackboards.
- **Tracking** quickly identifies presenter facing any direction.
- **Panning** is able to create acceptable digital camerawork.
- The proposed system produces a video suitable for learning.

