

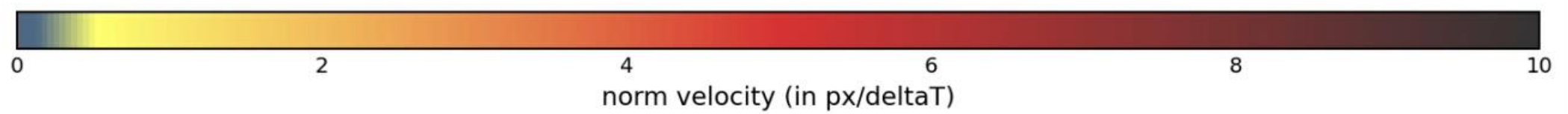
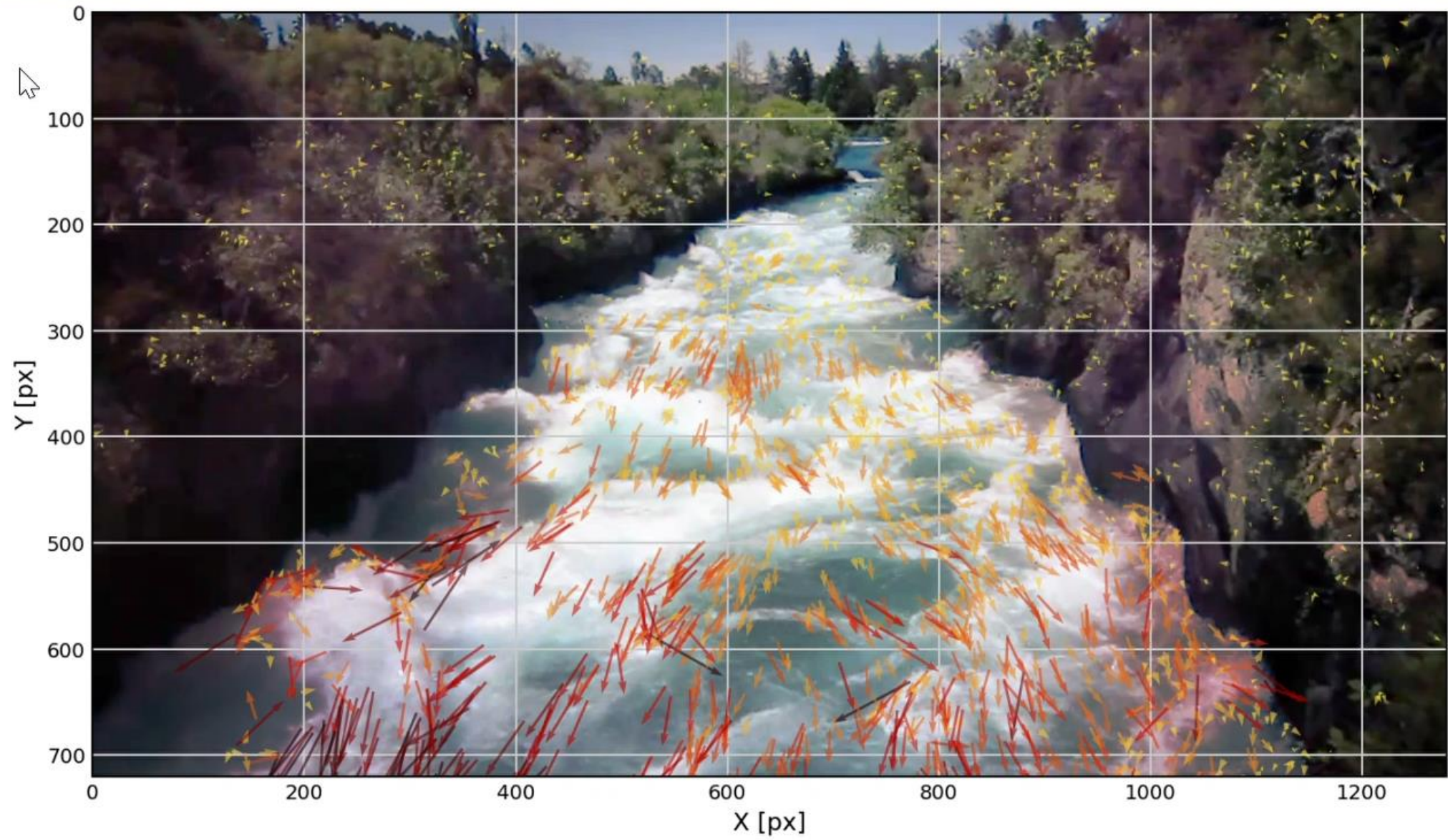
Computer vision-based non-contact flow measurement system for flood early warning

Mentors

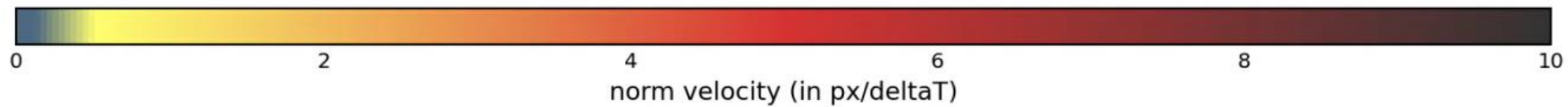
Dr. Vivek Gupta, and Dr. Dheeraj Dube

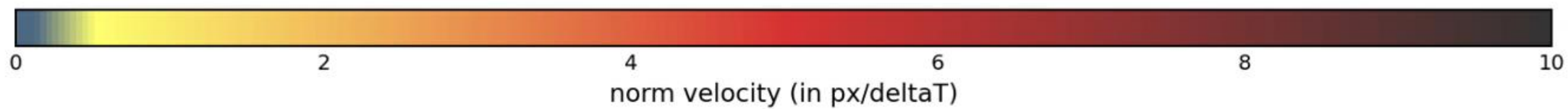
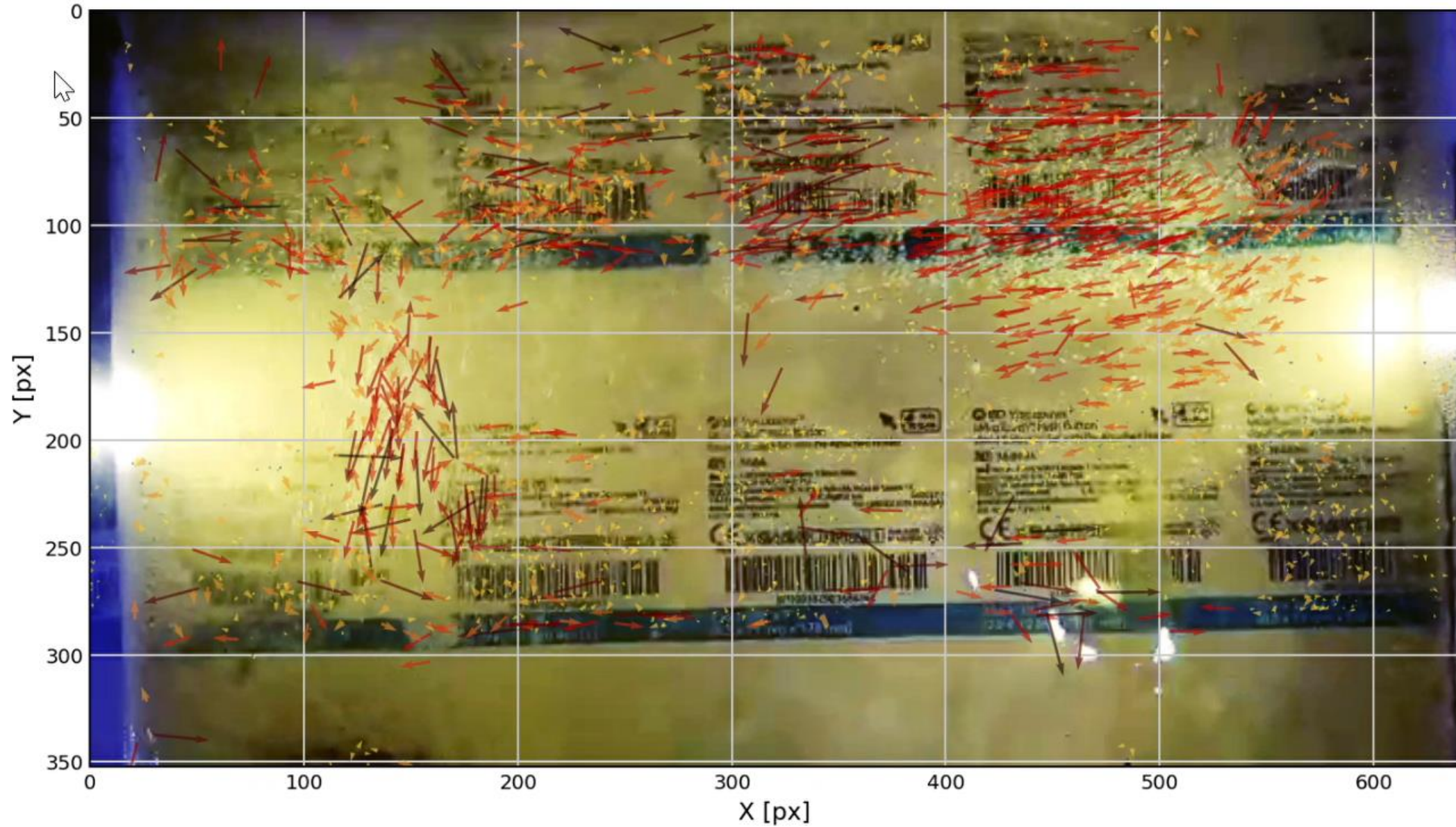
Eshaan, Pratham Gupta, Vikas Markam, Simran,
Abhinav Arya, and, Bhukya Charan





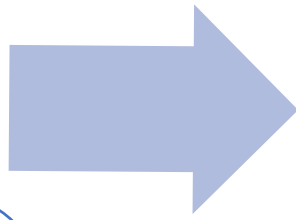






Taking videos of the stream surface

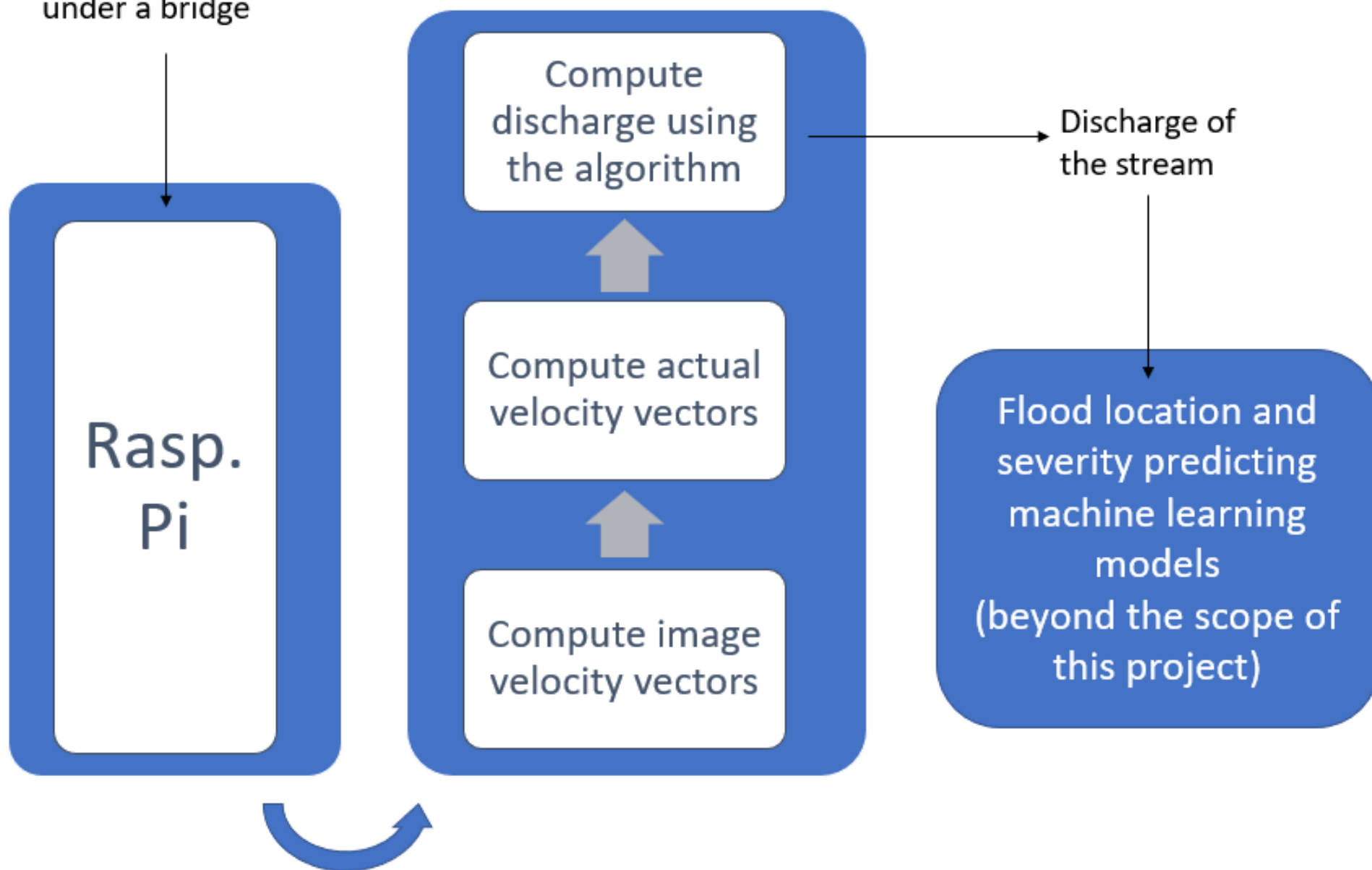
- Attach the cameras?
- Orientation of cameras?
- How to orient?
- Power for the electronics?
- Environmental sources of error?

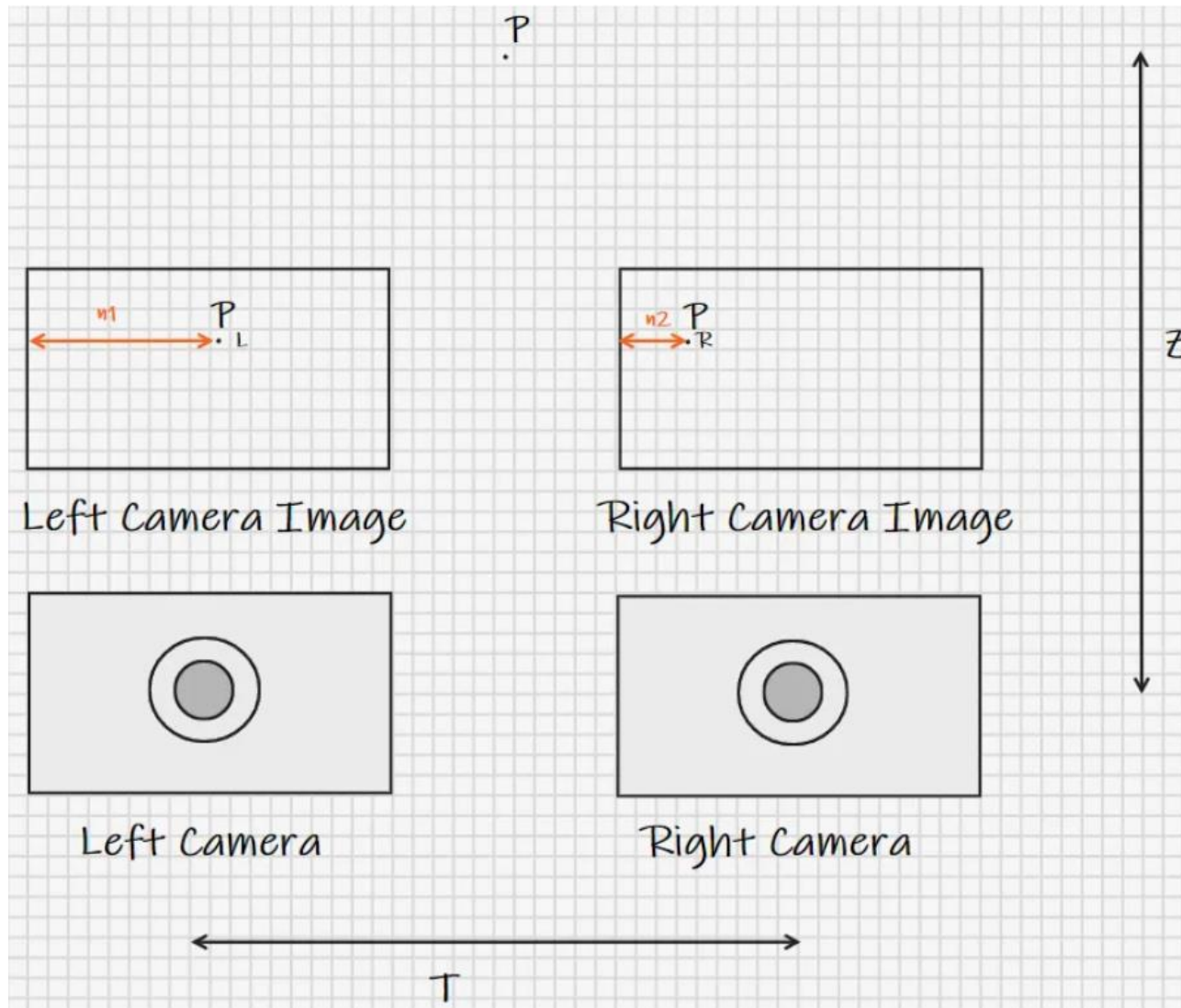


Processing videos to get the discharge

- Where do we process the videos?
- What is done in processing?
- How to combine data from adjacent cameras?
- How to get the real velocity vectors?
- Algorithm for calculating discharge?

A flowing stream
under a bridge





$$Z = \frac{f}{d} \times \frac{T}{D}$$

Source: A. Garg, "Stereo Vision: Depth Estimation between object and camera," *Analytics Vidhya*, Feb. 25, 2022. <https://medium.com/analytics-vidhya/distance-estimation-cf2f2fd709d8>