
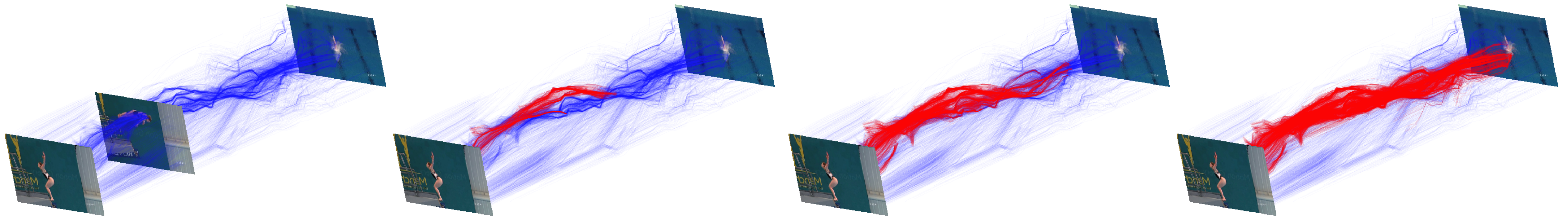


# Computer Vision for Sports

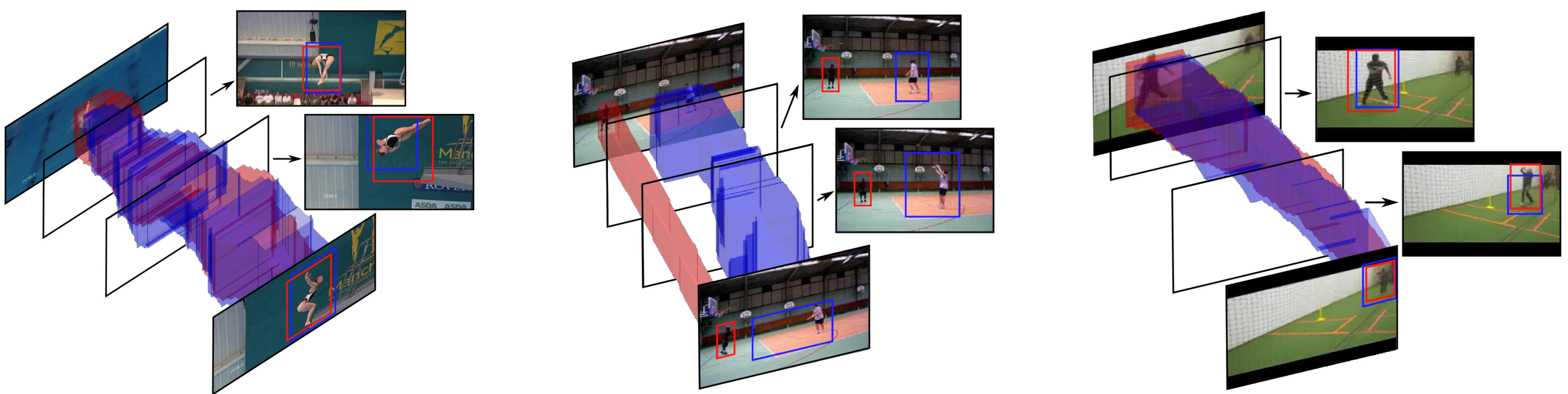
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## Action localization: find *what*, *when* and *where* its happening

Grouping similar looking and moving patches in time and space: [Jain et al, cvpr14] [Gemert et al, bmvc15]



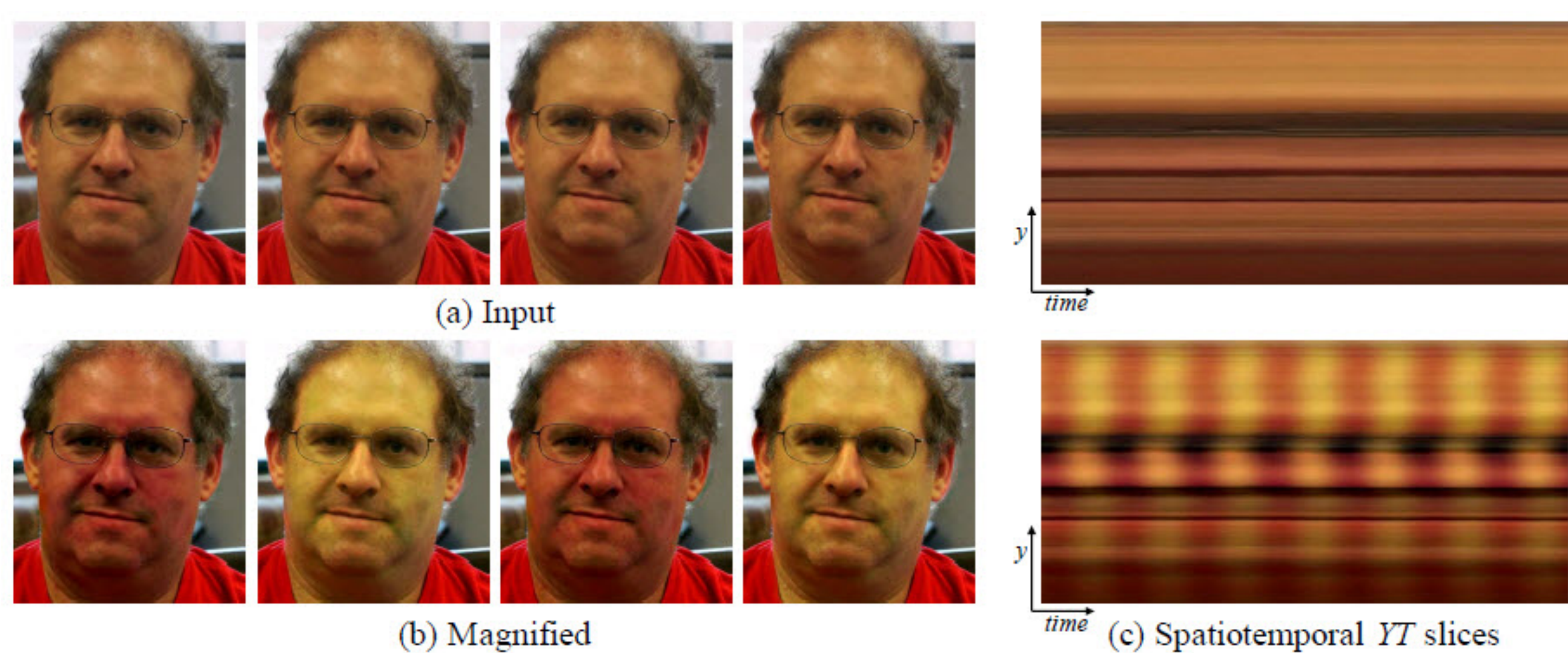
Example detections: ground truth action (red tube) and detected action (blue tube):



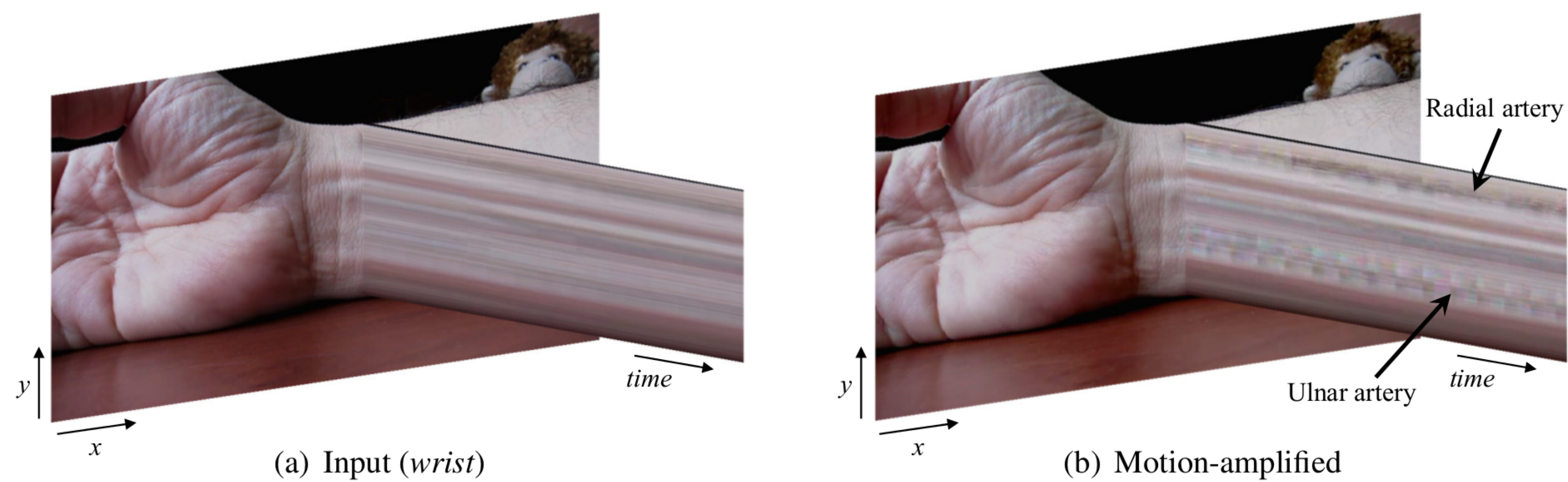
Possible applications: team play analysis; personal statistics; summarization; etc.

## Video magnification: revealing invisible changes

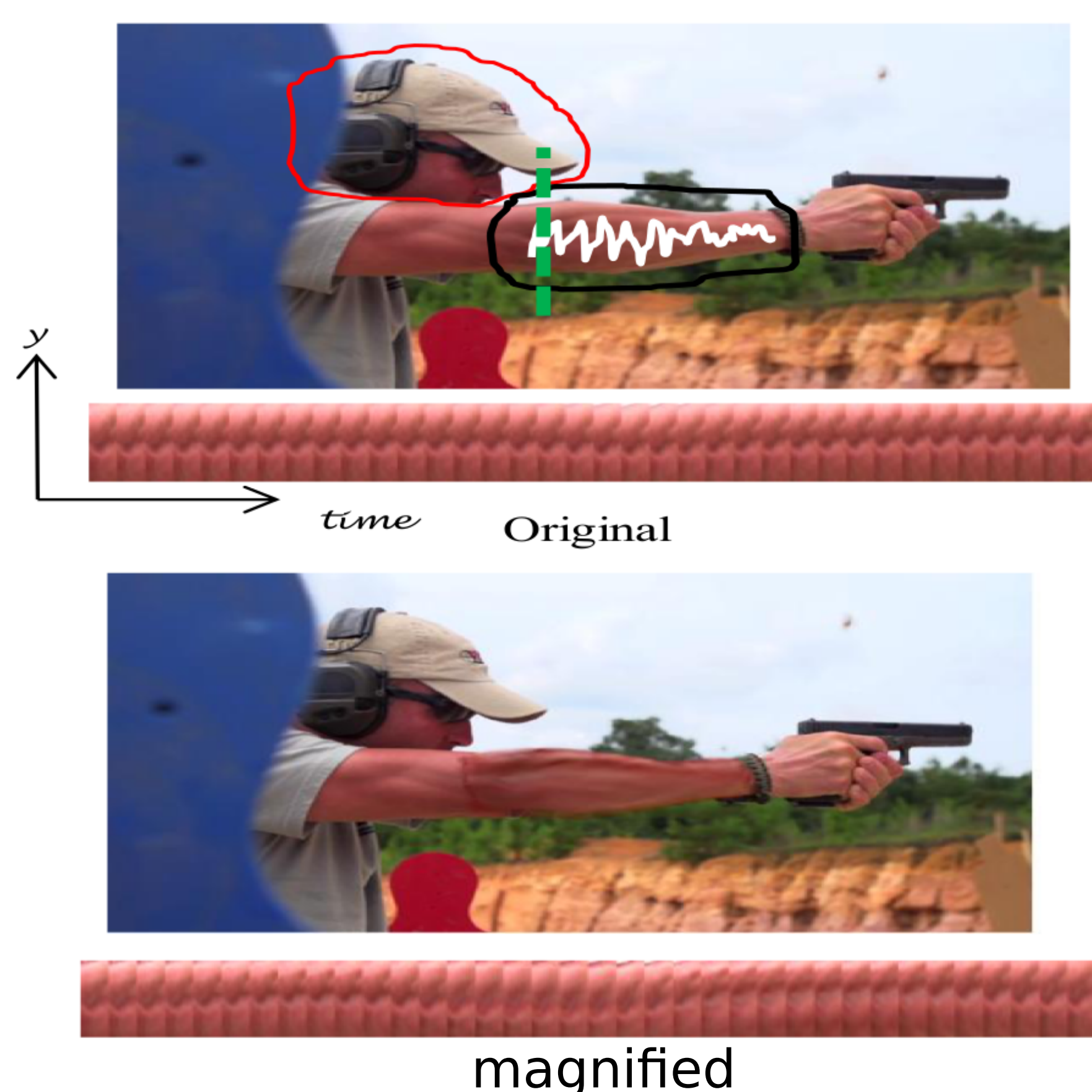
Magnify tiny color changes



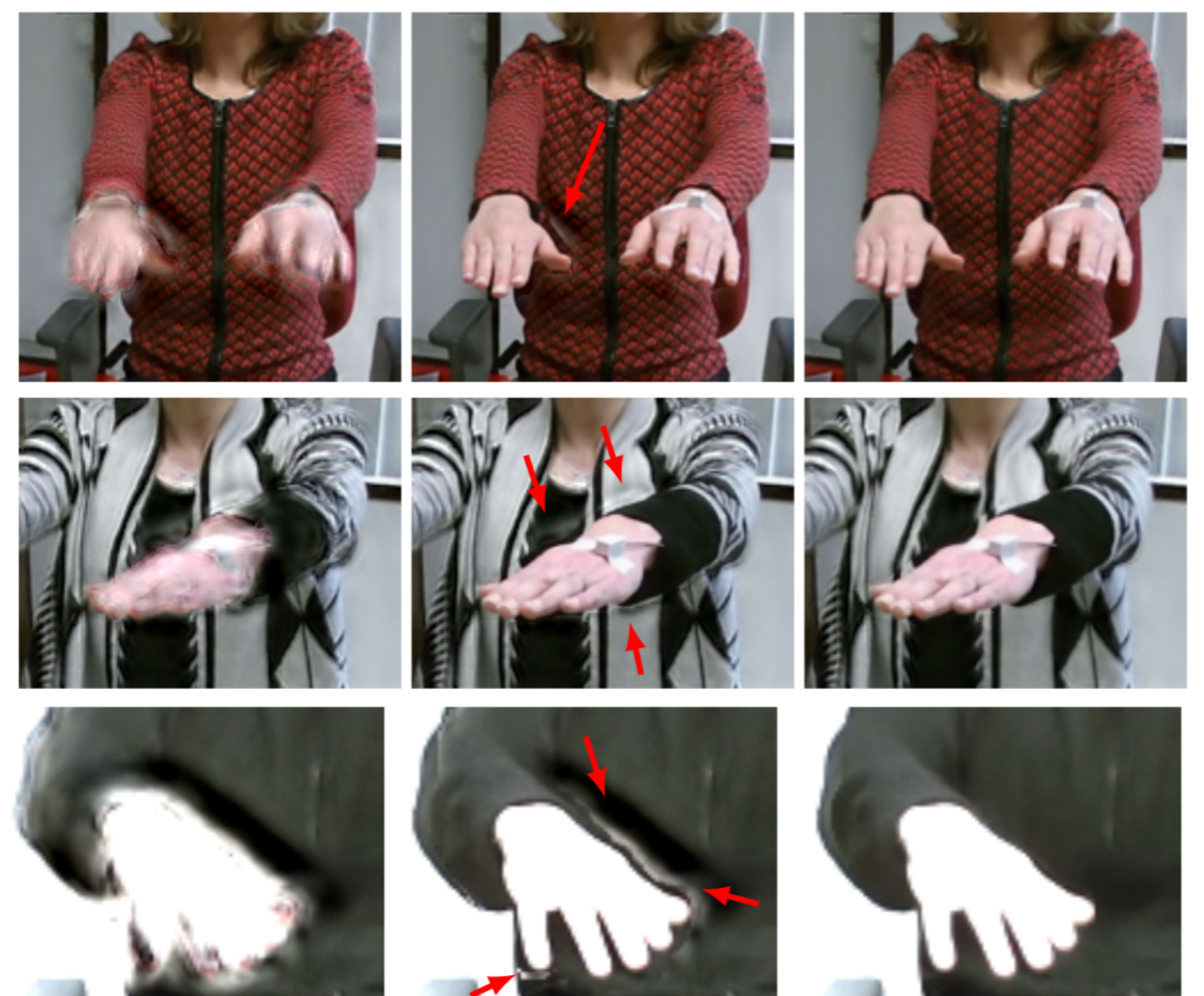
Magnify tiny motion



Magnify muscle movements



Magnify involuntary tremors



Filter small changes over time; magnify them; and put them back in.