

Towards Secure and Immersive Mixed Reality

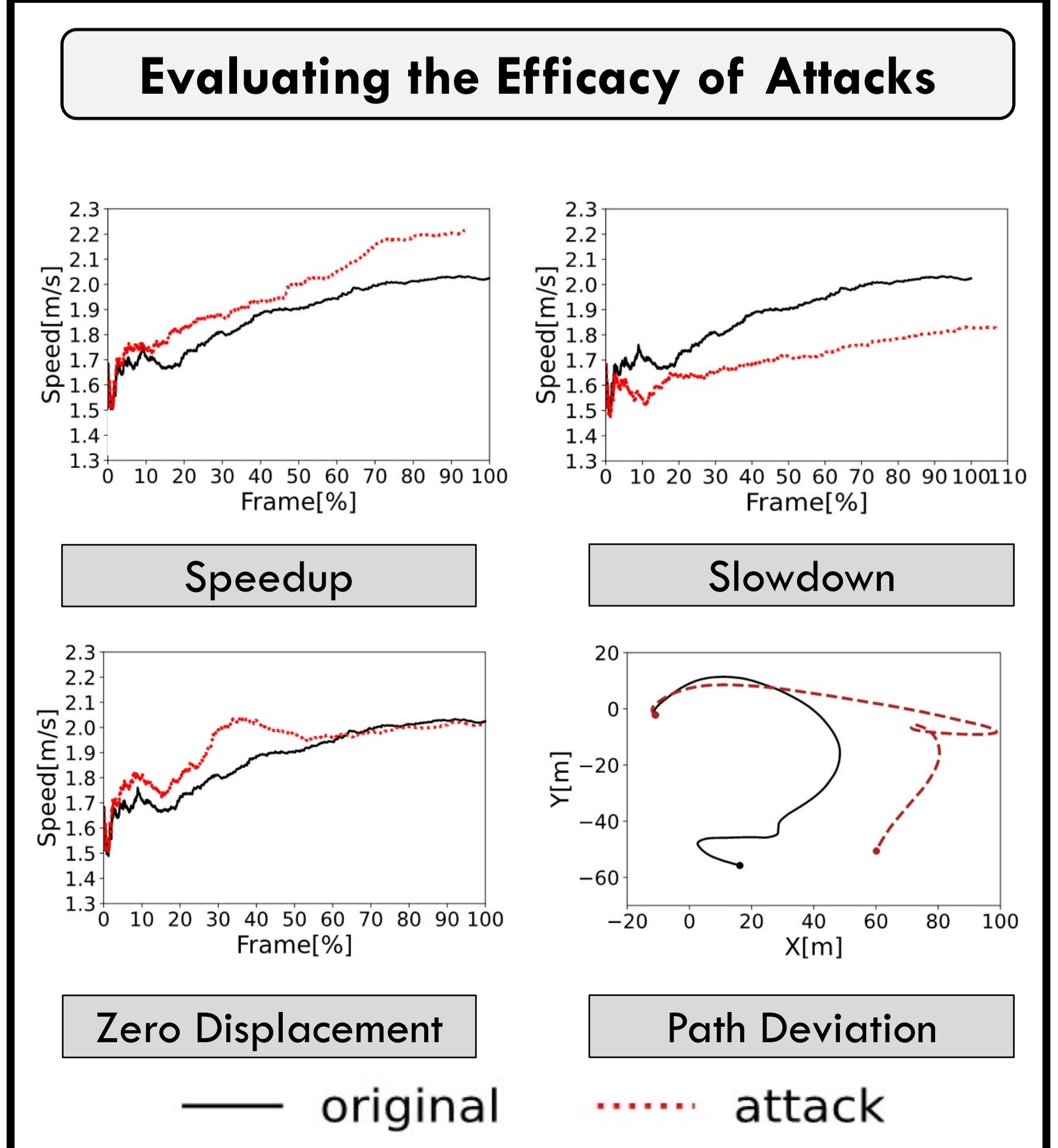
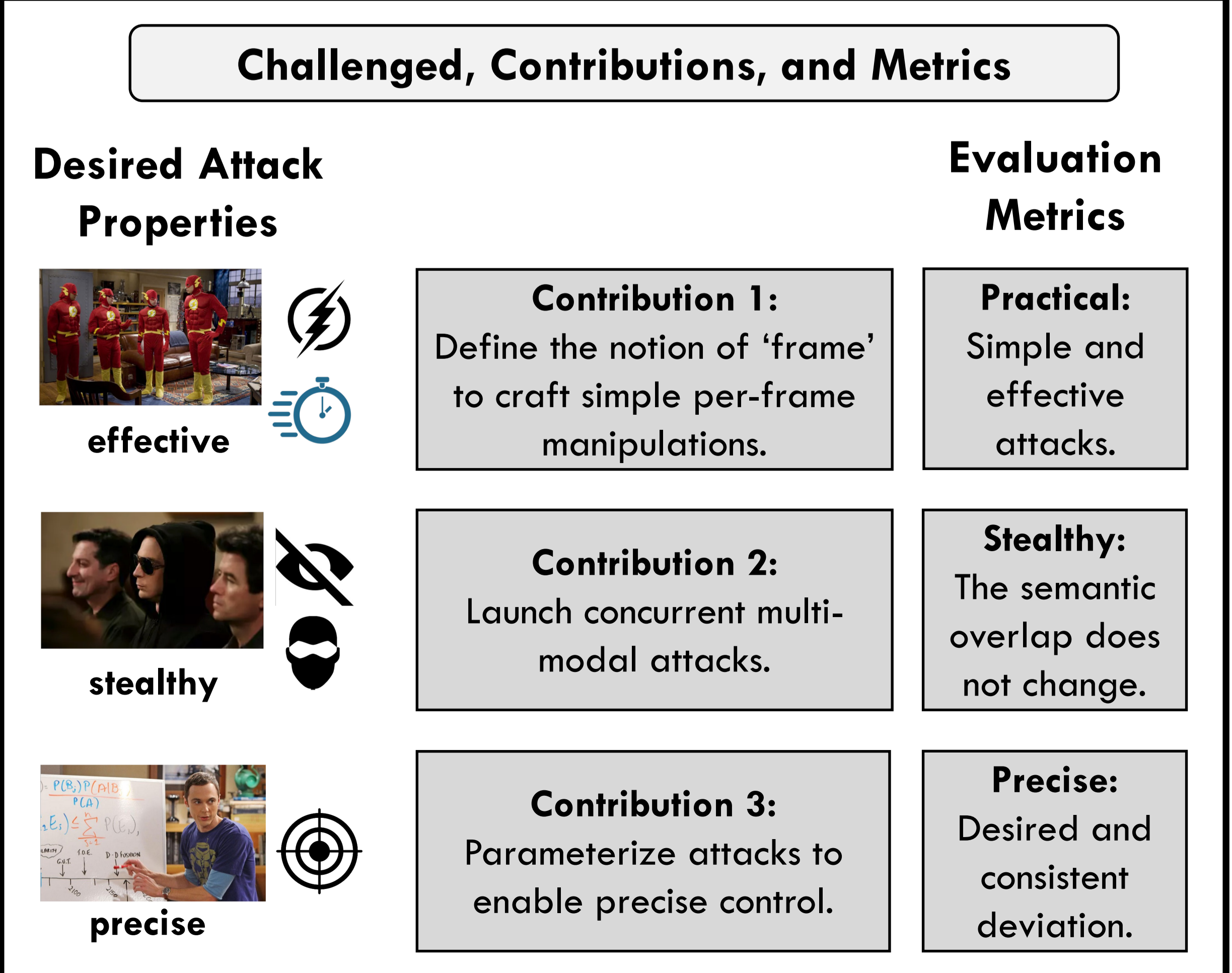
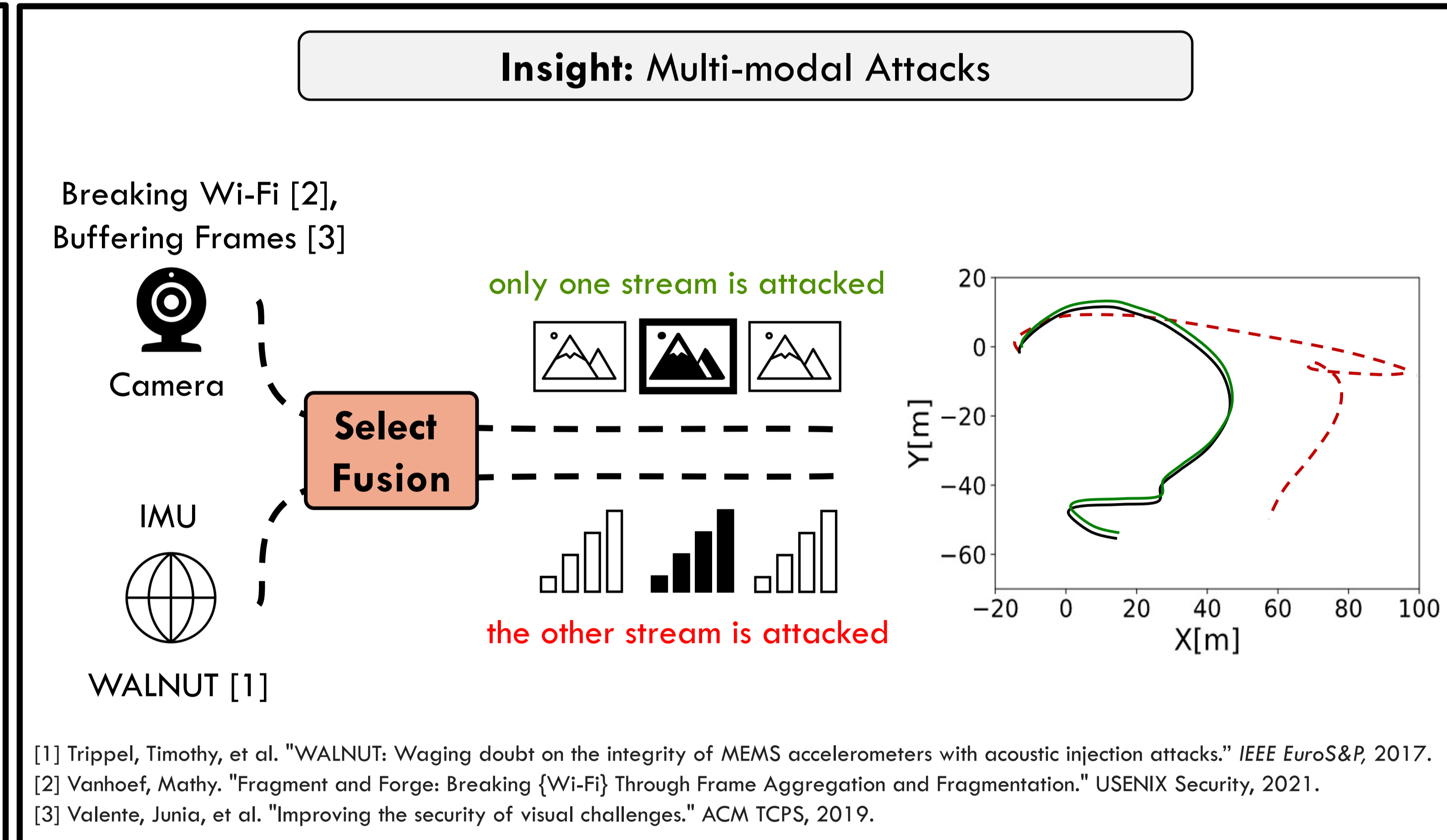
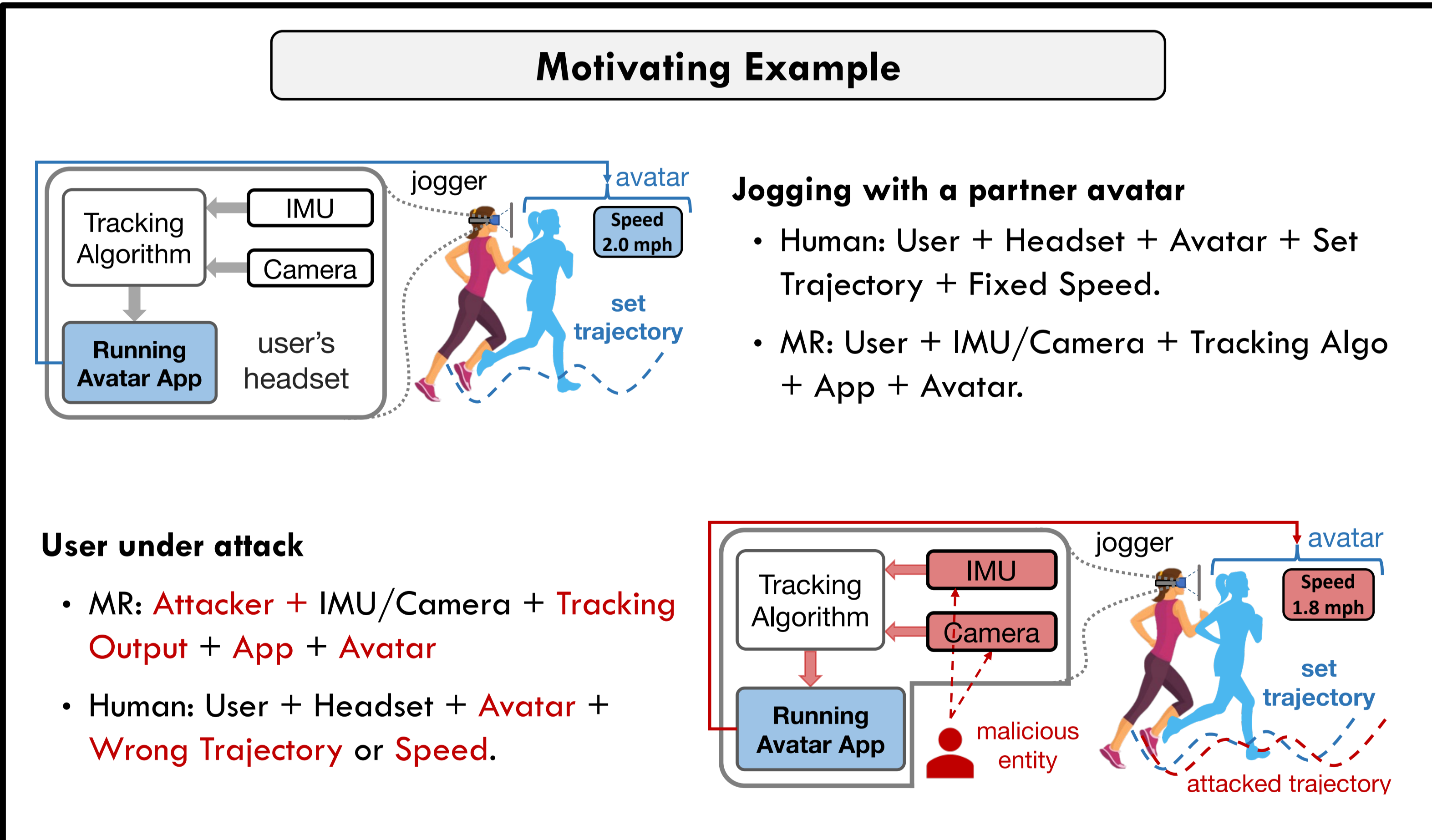
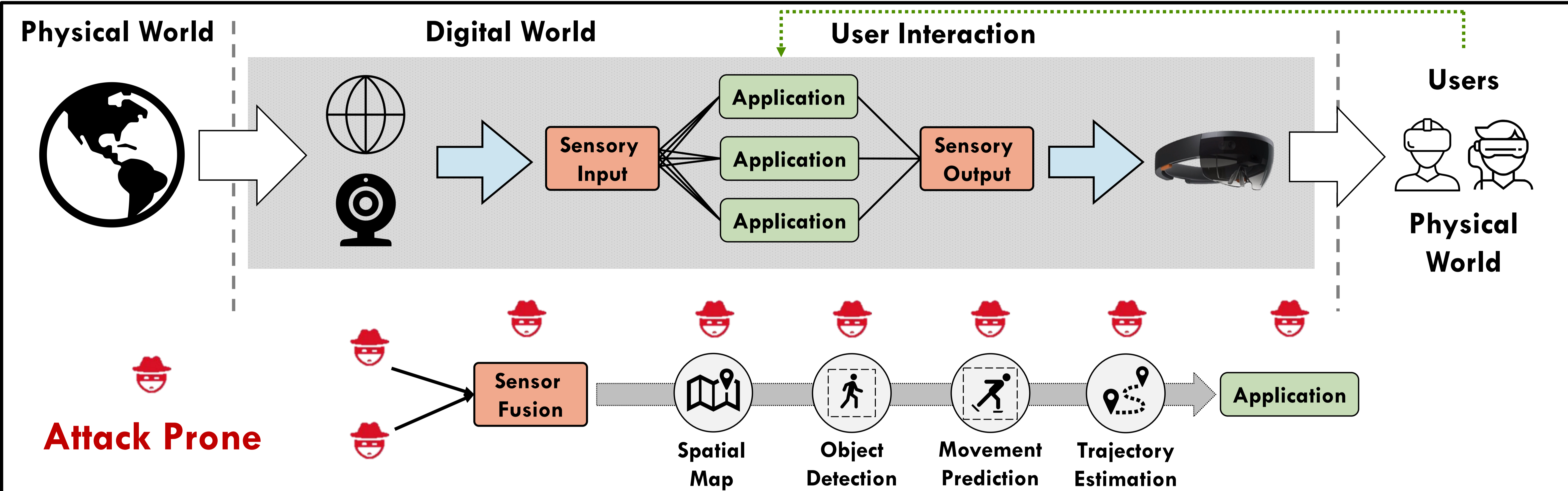
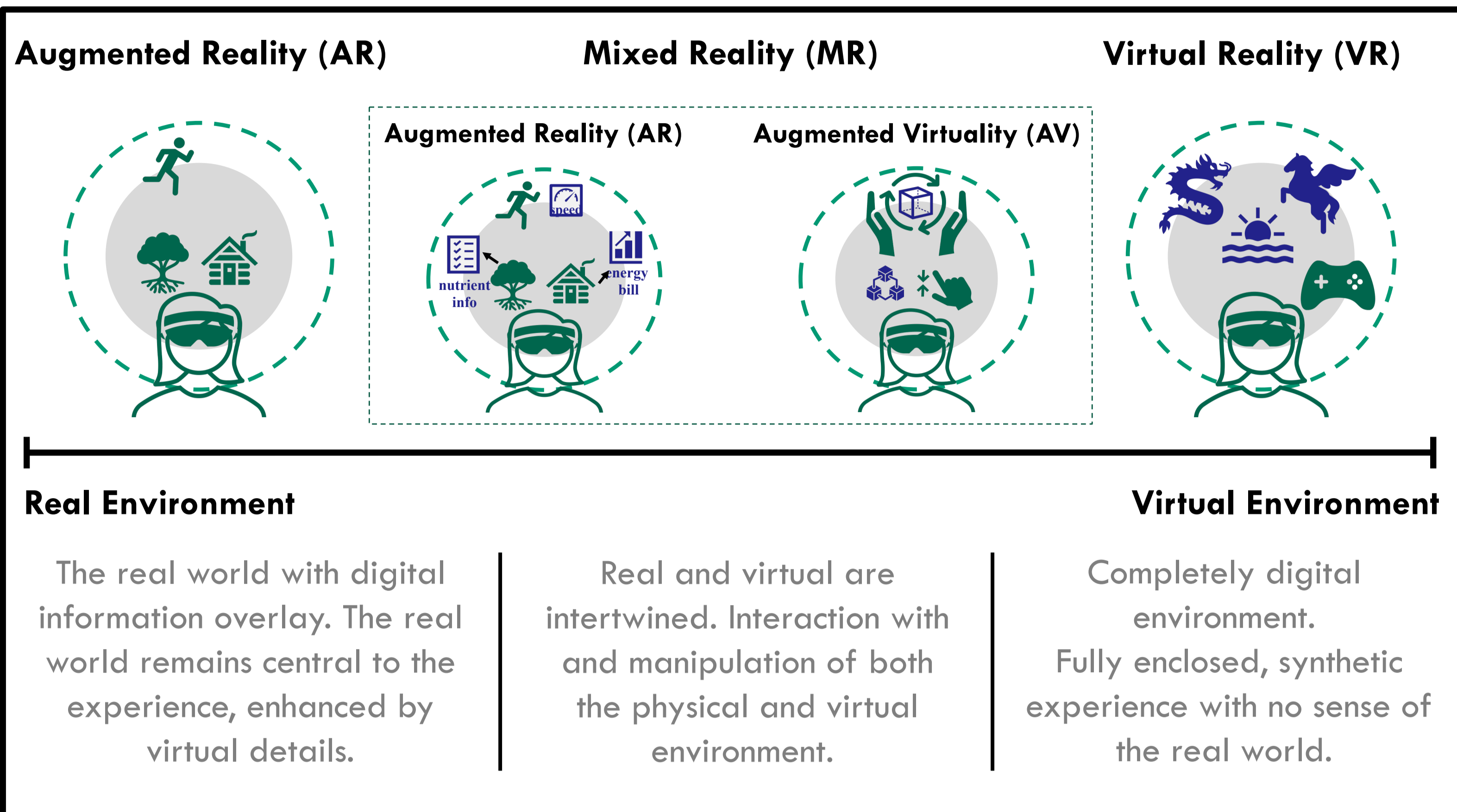
Reality

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Webpage



HoloSet: A Mixed Reality Dataset

| Carrier | Head-mounted device | Environment | Action | Seqs | Samples | Distance (meters) |
|----------------|---|-----------------|-----------------|------|---------|-------------------|
| Environment | Indoors/Outdoors | hiking trail | walk | 3 | 8518 | 686 |
| Movement type | Macro/Micro | suburbs | walk | 3 | 15150 | 1540 |
| User actions | Walk, jog + play games that exercise fine motor skills and hand-eye coordination | research center | walk | 5 | 8251 | 1003 |
| Scene setup | Multiple levels in 4 buildings + city center, urban scenes, and hiking trails + micro movements inside a room | city center | walk | 3 | 5132 | 407 |
| Hardware setup | Microsoft HoloLens 2 | outdoors | - | 14 | 37051 | 3636 |
| Data types | RGB, depth, and gray-scale (4x) camera images, IMU data | campus center | walk | 2 | 5843 | 497 |
| Total distance | 4miles | student center | walk | 2 | 5664 | 486 |
| Ground truth | HoloLens pose | research center | walk | 4 | 17419 | 1648 |
| | | indoors | - | 8 | 28926 | 2631 |
| | | room | jenga operation | 5 | 10842 | - |
| | | micro | - | 7 | 12568 | - |
| | | all | all | 29 | 78545 | 6267 |

HoloSet Dataset [Webpage](https://zenodo.org/record/7200131)