REU: Week 7

Scene Motion Patterns from Optical Flow

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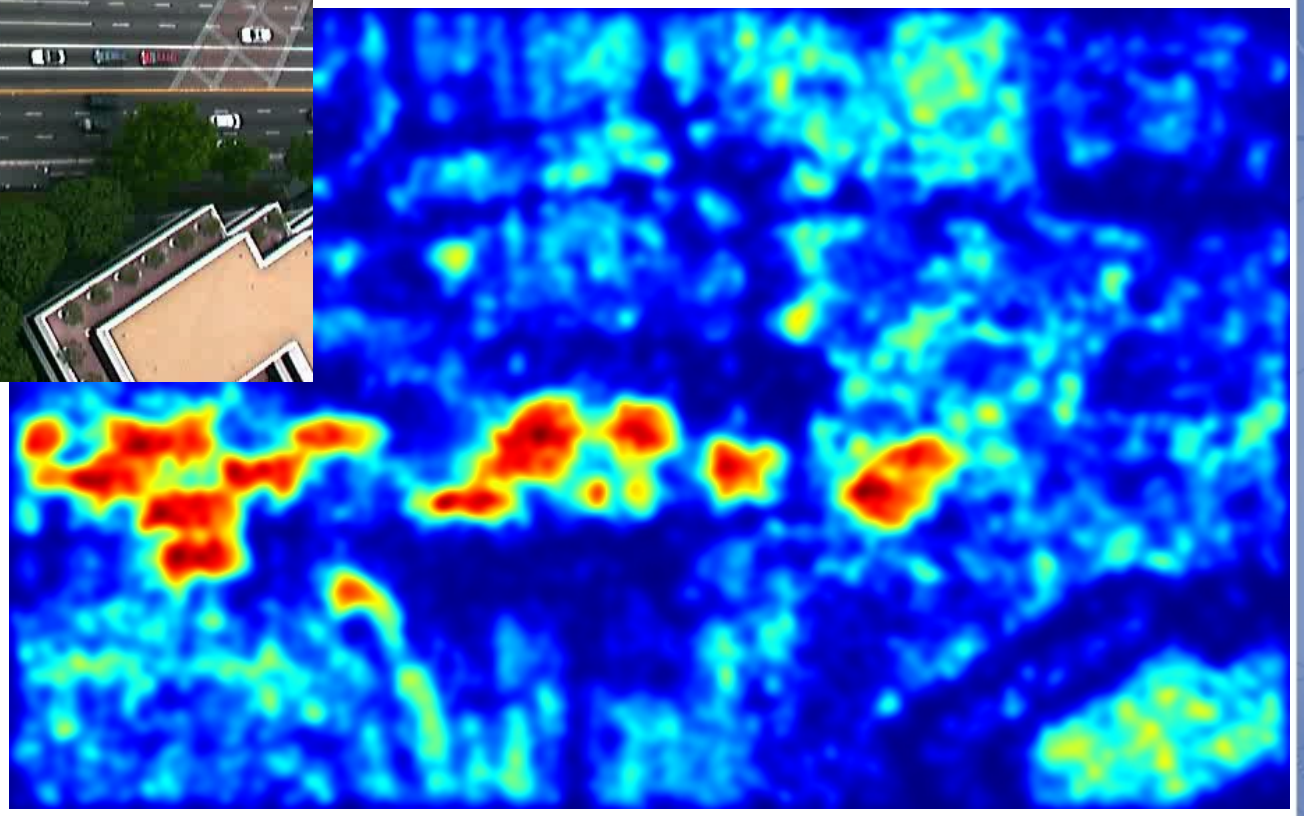
Problem

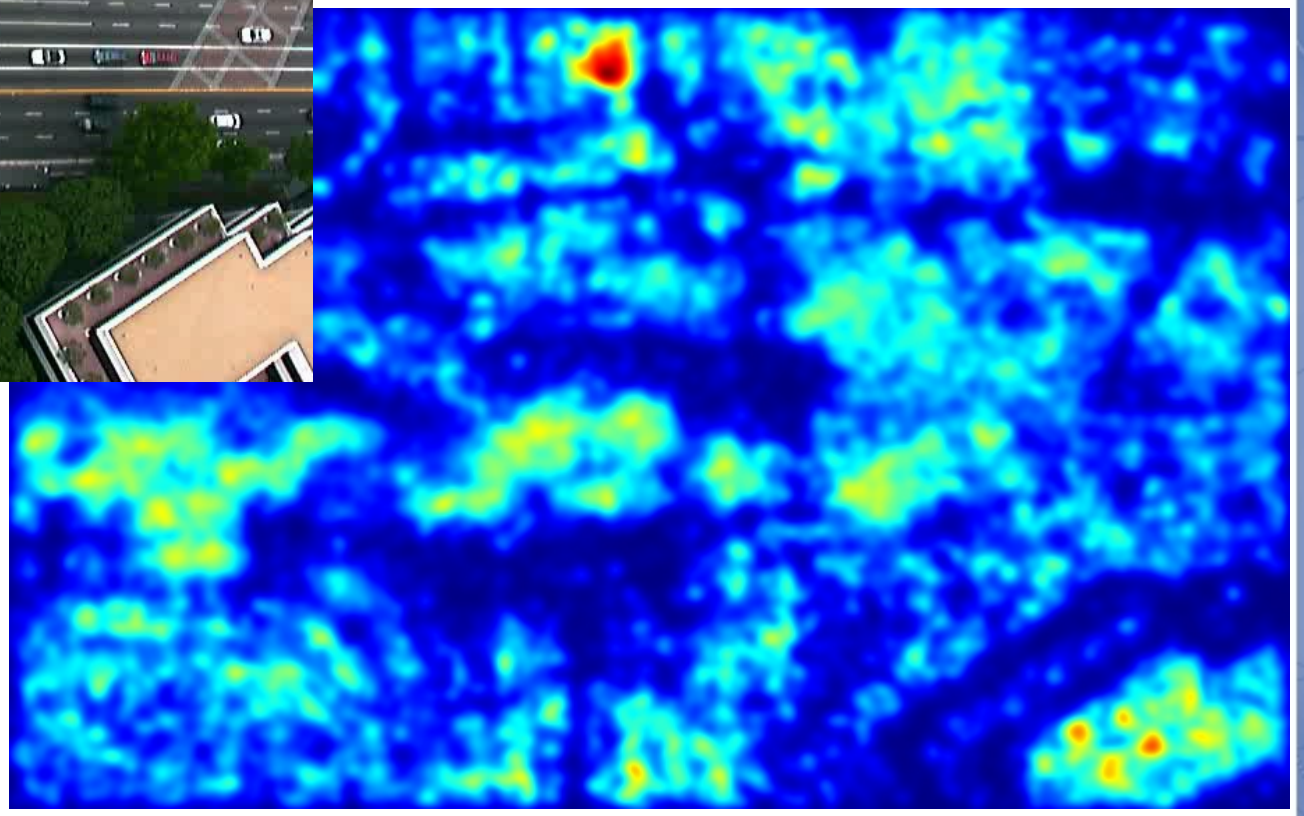
- Trained over 11,000 frames
- PDF does not capture all motion patterns
- Difficult to recognize multiple distinct patterns (eg. within an intersection)

Best case



P(direction=east | x,y) for all pixels x,y

Worst case

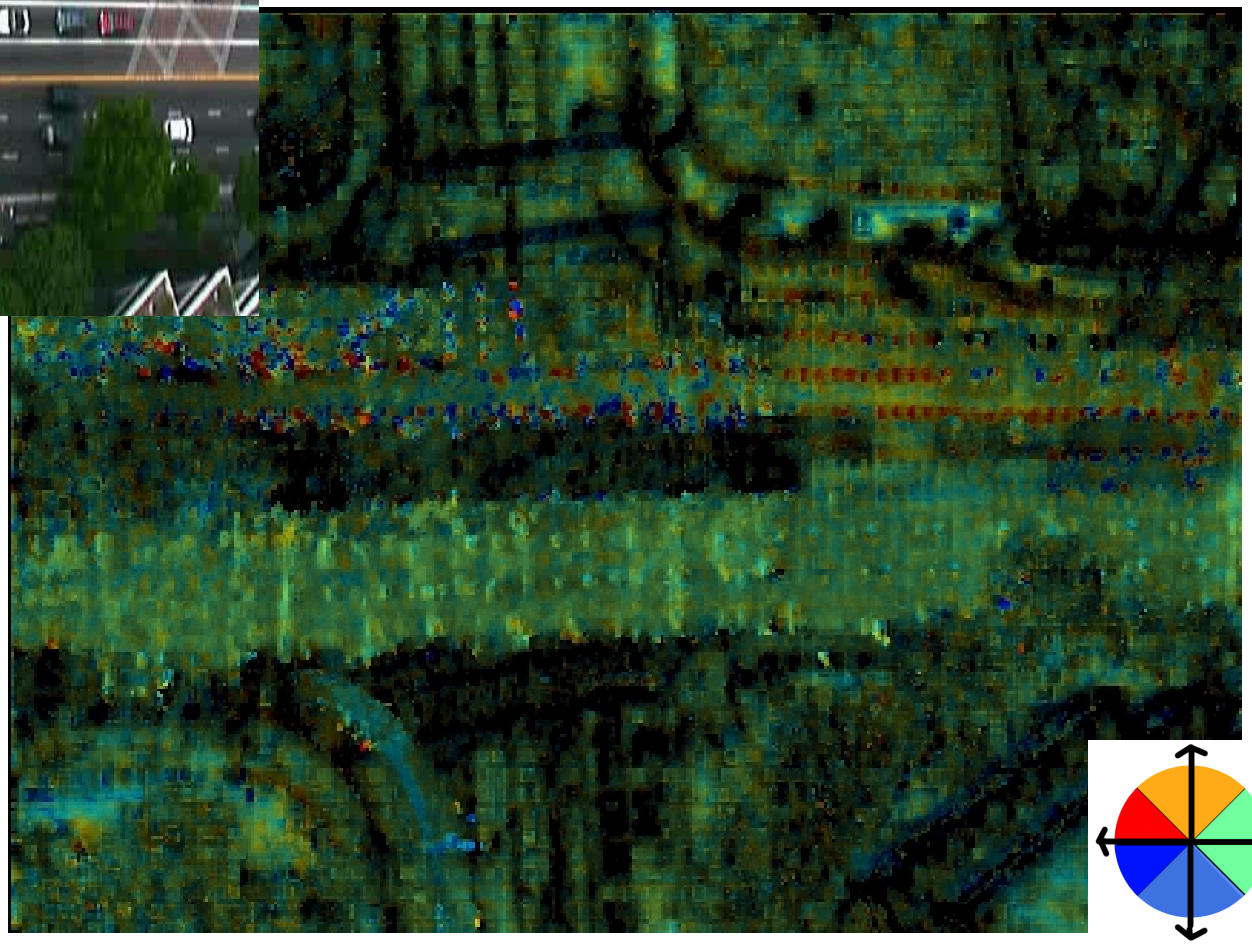


P(direction=north | x,y) for all pixels x,y

Our solution

- Try to capture temporal change in motion patterns
- Separate frames into time clips
- Frames 1-90 are marked t=1, …
- New model based on (x,y,u,v,t)

Example 1: Horizontal traffic



Example 2: Left turn