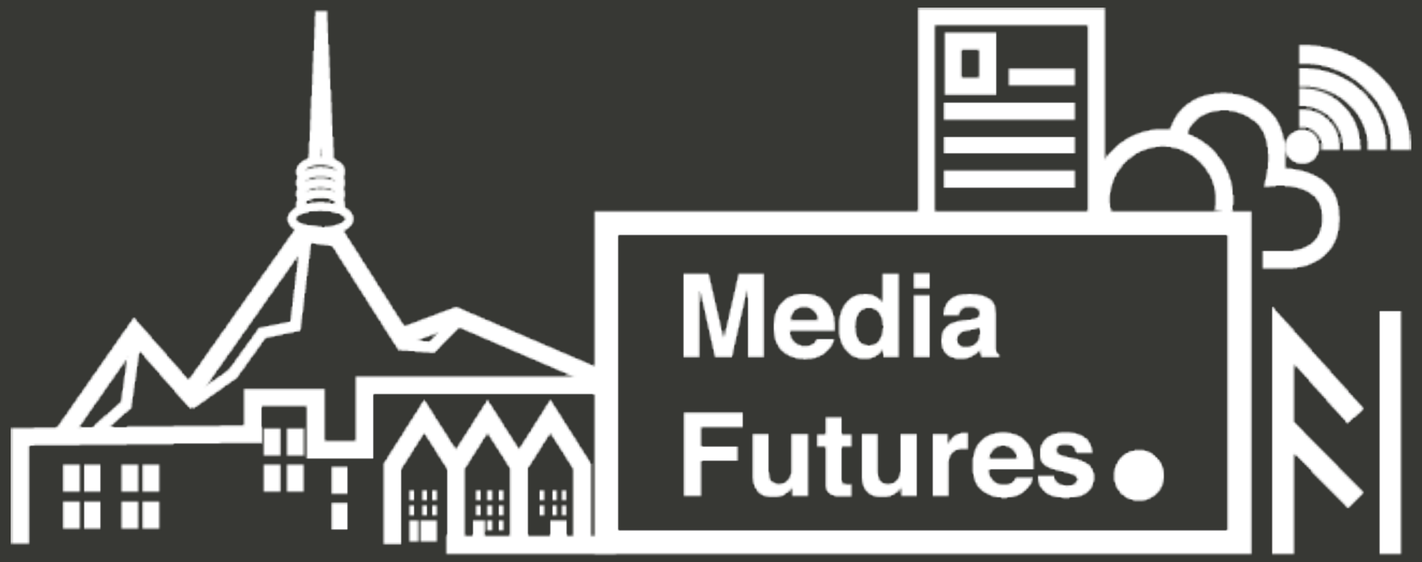


# Machine learning in broadcast media production

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**Research Centre for Responsible Media Technology and Innovation**
Project number 309339

# The idea

- When computers can understand the content in the live camera view:

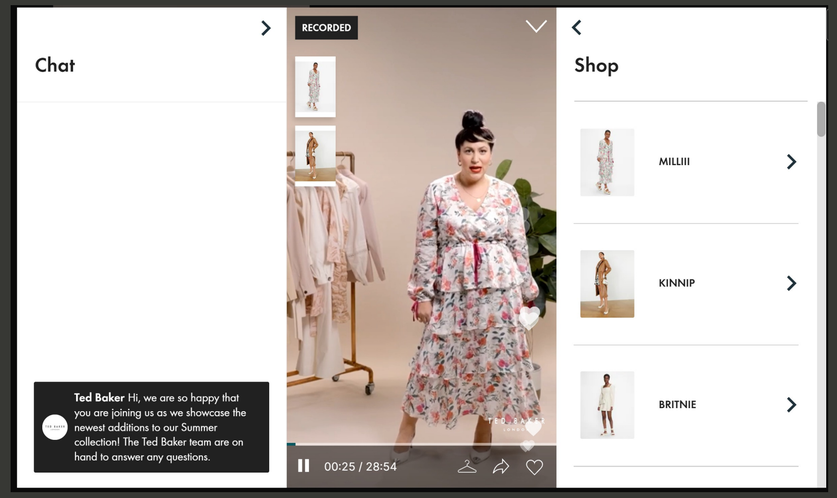
…it can understand gestures made by a presenter telling it to mix between camera broadcast and graphics

…and it can make sure the graphics is not put  on top of the presenter

# Motivation

- Semi-pro live productions is increasing in numbers and people are struggling  with making quality broadcasts

- Professional production is more and more dependent on emergent internet practices



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# Increased semi-pro/amateur live productions but limited use of graphic

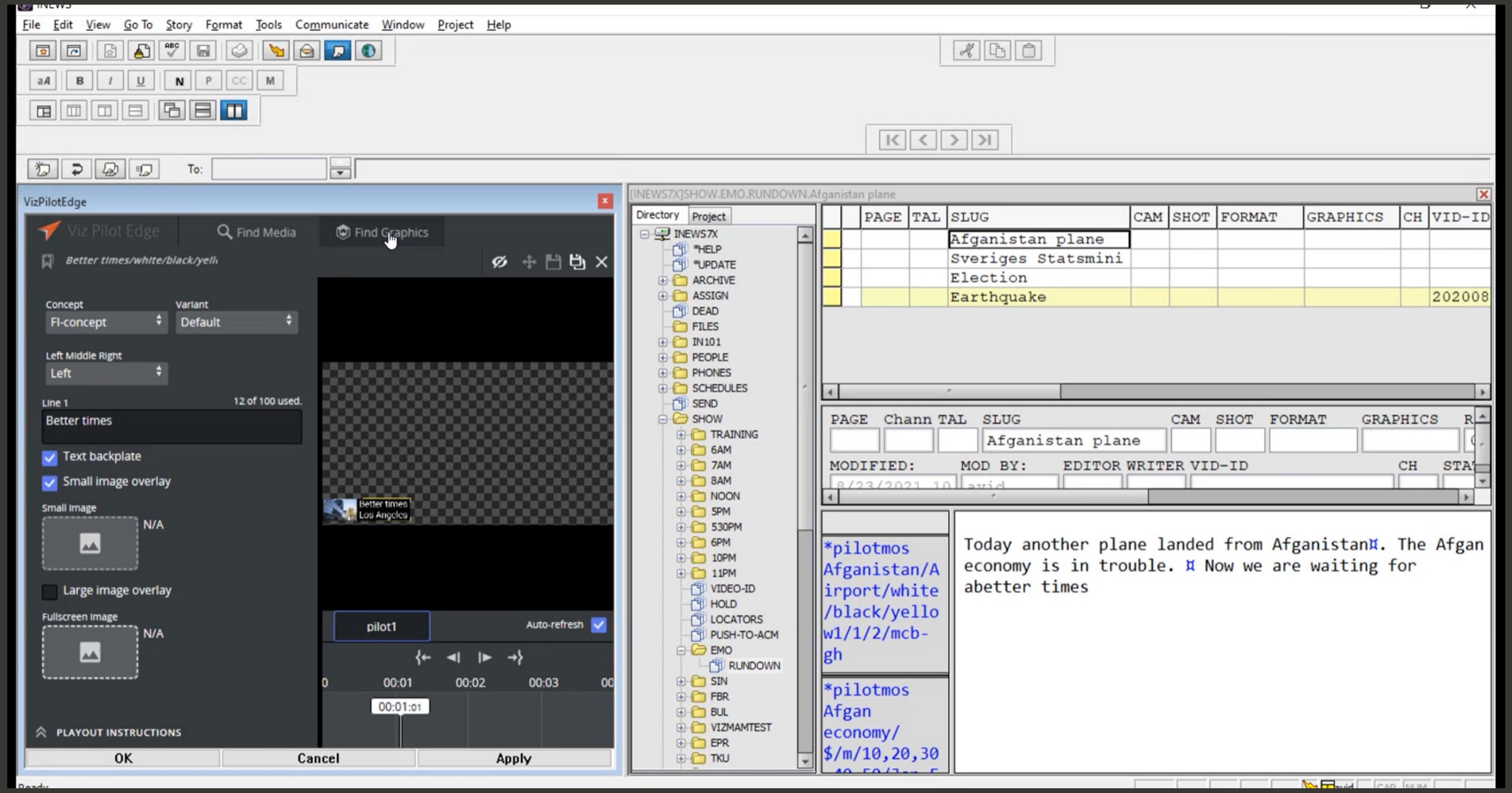
- Rarely use graphics

- Challenge:

- Lack of graphic skills
- Lack of production teams

# Graphics as a key feature in professional production

“We have to think how we can be better than the online platforms. We are paying more money, so how can we improve our content? Something that the [social media creators] can’t provide. We have a lot more graphics presentation. We use a lot of graphics to present our stories. It’s not something you can easily do in a home setup. It’s something you can do in a big studio.“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*pilotmos Afganistan/Airport/white/black/yellow1/1/2/mcb-gh
*pilotmos Afgan economy/ $/m/10,20,30
Today another plane landed from Afganistan¤. The Afgan economy is in trouble. ¤ Now we are waiting for abetter times

# Graphics as a key feature in non-professional live broadcasts

How we can help very small teams, or even single individuals, to make live broadcasts that closes in on professional broadcast quality in general and the use of graphics in specific?

# Graphics as a key feature in non-professional live broadcasts

How we can help very small teams, or even single individuals, to make live broadcasts that closes in on professional broadcast quality in general and the use of graphics in specific?

Let’s see how emergent computer vision could be a helping hand!

# The idea again

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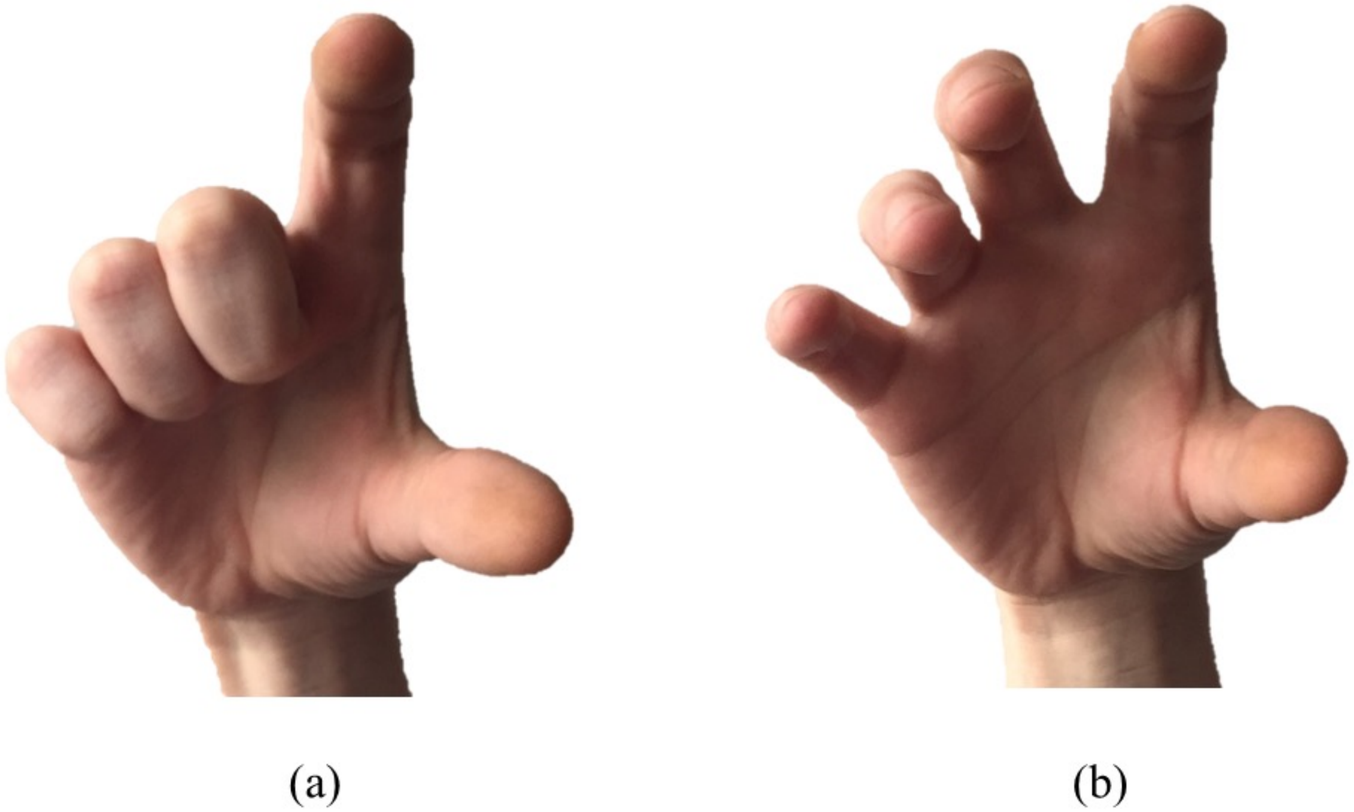
# Dynamic Hand Gesture 14/28 dataset



(a) (b)

# Dynamic Hand Gesture 14/28 dataset

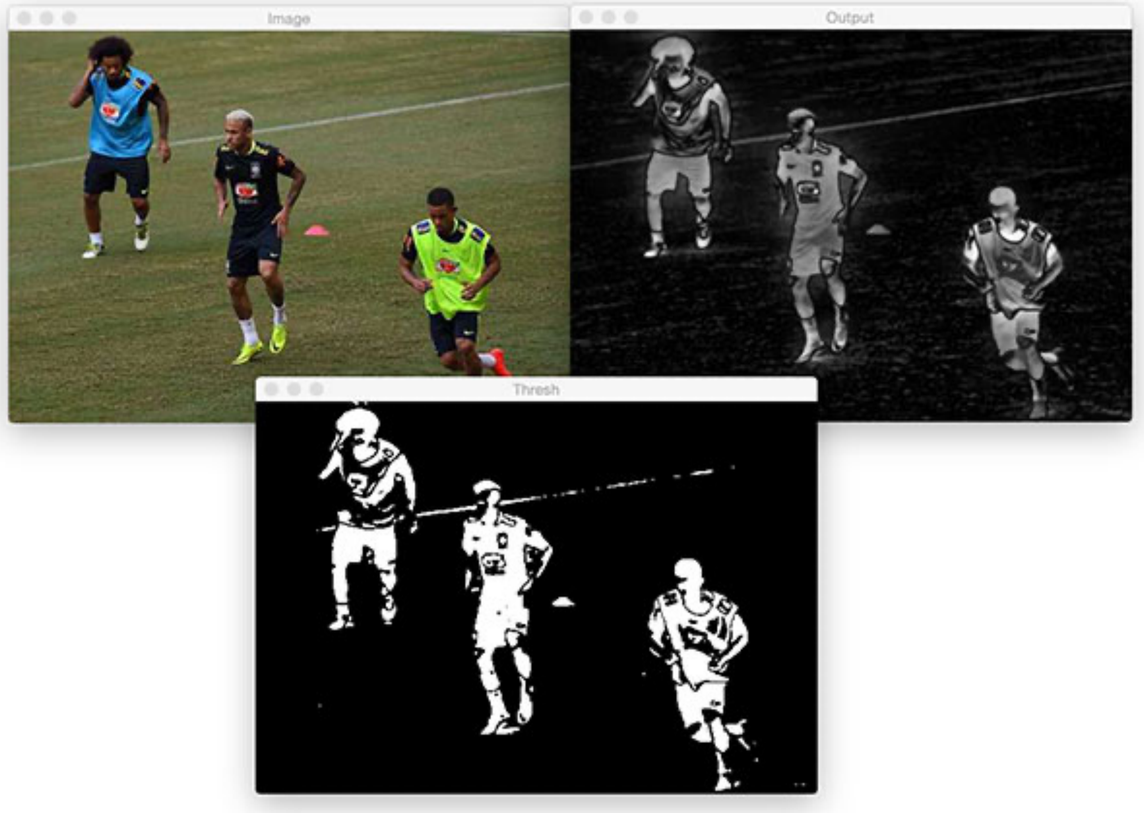
Grab, Tap, Expand, Pinch, Rotation,

Swipe Right/Left and Up/Down

Swipe X, V, +

Shake

# Automatic graphic adjustments with salient content recognition



# Outstanding interactional research questions

How adapt technical affordance of AI to practical and interactional experience?

Methods: mock up design and testing based on available reserach in computer vision

# Reading suggestions


- Pavel Okopnoyi, Valentina Caruso, Oskar Juhlin, Frode Guribye, Automation and Redistribution of Work: The Impact of Social Distancing on Live TV Production, Forthcoming in Human-Computer Interaction
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- Oskar Juhlin, Goranka Zoric, Arvid Engström, and Erika Reponen. 2014. Video interaction: a research agenda. Personal Ubiquitous Comput. 18, 3 (March 2014), 685–692.

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# Thank you

## for your attention


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