

Futatabi: Multi-camera instant replay with slow motion

Steinar H. Gunderson

FOSDEM, February 2nd 2019

OSI (Black/Red)

6

Frisbee Ultimate

9

Ekeberg (White/Green)





Preview

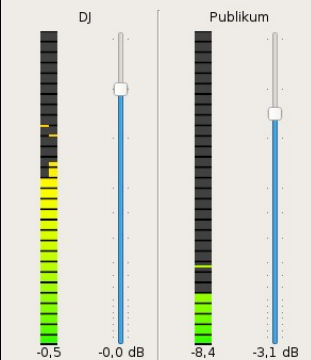
Cut (J)

Zoom out (K)



Live

Compact audio view ◀ ▶



Lo-cut (24dB/oct) Limiter threshold Makeup gain



121 Hz



-10,0 dB



-4,2 dB

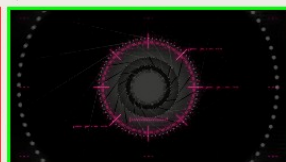
☒ Enabled

☐ Auto



Input 1 (720p59,94)

Set WB



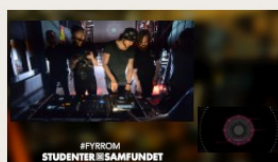
Input 2 (720p60)

Set WB

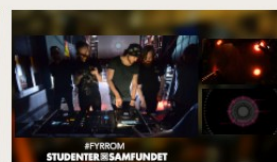


Input 3 (720p59,94)

Set WB



Side-by-side



Double SBS

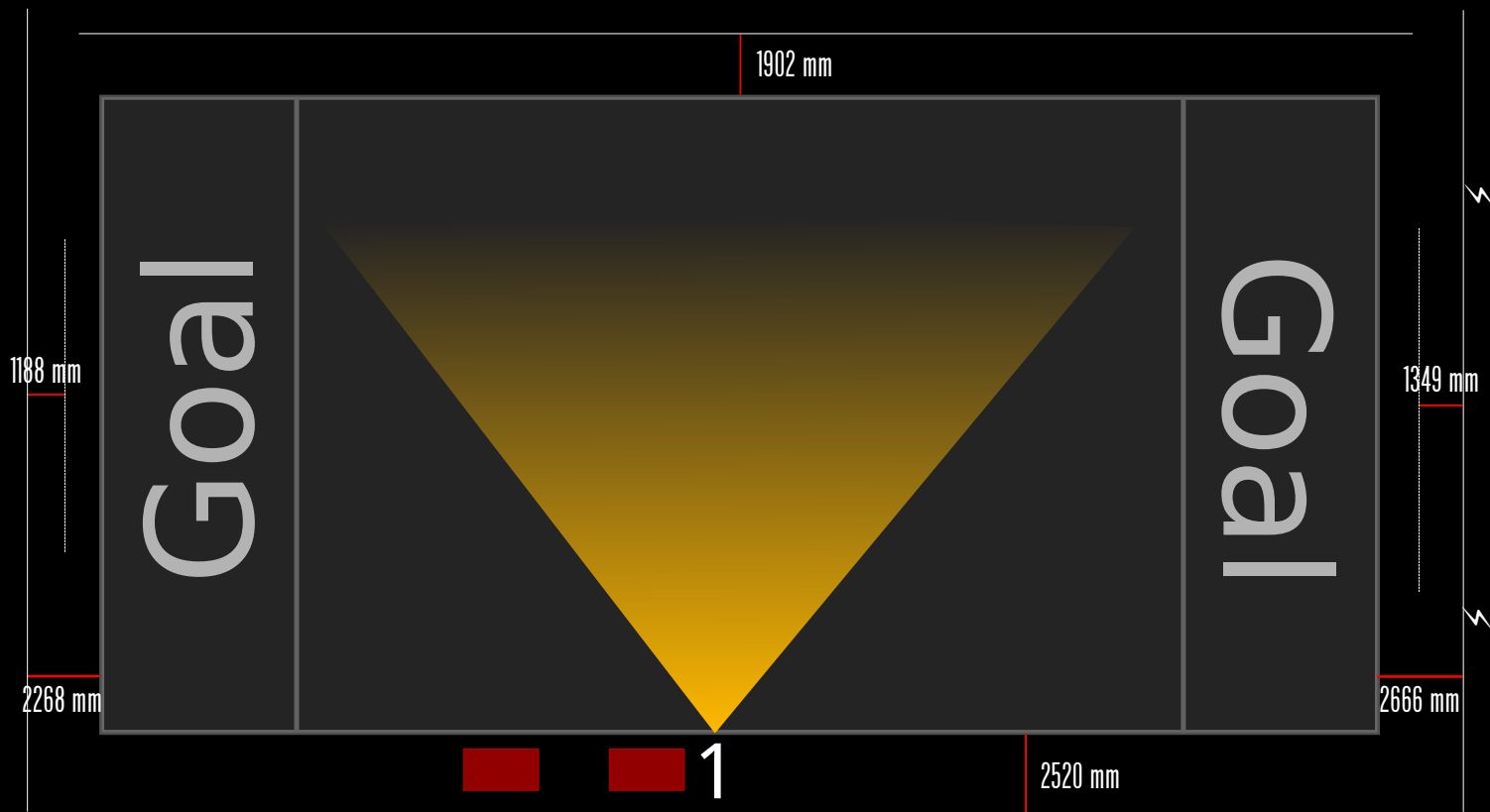


Static picture

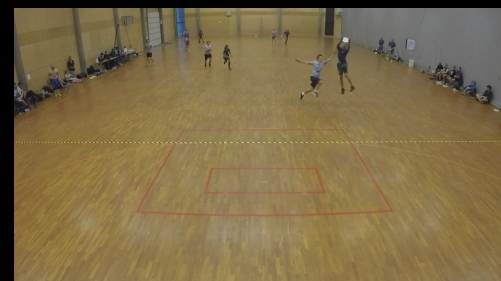


Overlay









TFK

7 - 4

BFK

19:15



This seller is currently away until Jan 02, 2019. If you make a purchase, there may be a delay in processing your order.



EV5 XT3 Broadcast Server, used

★★★★★ Be the first to [write a review](#).

Condition: **Used**
"Very Good"

Price: **GBP 99,000.00**
Approximately
NOK 1,095,543.53

[Buy It Now](#)

[Add to cart](#)

Best Offer:

[Make Offer](#)

[Add to watch list](#)

Longtime
Member

Seller information

digibcltd (767 ★)

100% Positive feedback

[Save this Seller](#)

[Contact seller](#)

[Visit store](#)

[See other items](#)


Registered as a Business Seller

Shipping: **GBP 30.00** (approx. NOK 331.98) Standard Shipping | [See details](#)
International items may be subject to customs processing and additional charges. [?](#)
Item location: Chessington, United Kingdom
Ships to: Worldwide [See exclusions](#)

Delivery: Estimated between **Wed. Jan. 2** and **Fri. Jan. 11**
Seller ships within 2 days after [receiving cleared payment](#). [?](#)

Payments:     

Returns: 14 days, buyer pays return shipping | [See details](#)

Guarantee:  **MONEY BACK GUARANTEE** | [See details](#)

This seller is currently away until Jan 02, 2019. If you make a purchase, there may be a delay in processing your order.



EVS XT3 Broadcast Server, used

★★★★★ Be the first to [write a review](#).

Condition: **Used**
"Very Good"

Price: **GBP 99,000.00**
Approximately
NOK 1,095,543.53

[Buy It Now](#)

[Add to cart](#)

Best Offer:

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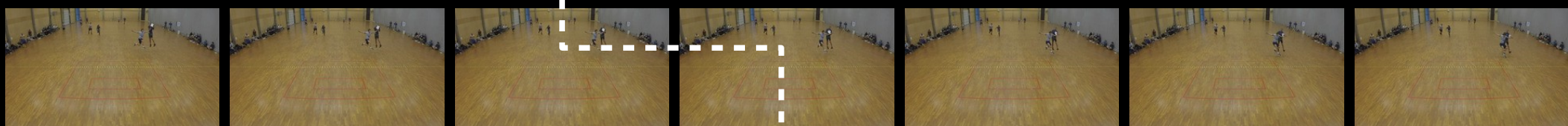
Delivery: Estimated between **Wed. Jan. 2** and **Fri. Jan. 11**

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Payments:     

Returns: 14 days, buyer pays return shipping | [See details](#)

Guarantee:  **MONEY BACK GUARANTEE** | [See details](#)













Fast Optical Flow using Dense Inverse Search

Till Kroeger¹

Radu Timofte¹

Dengxin Dai¹

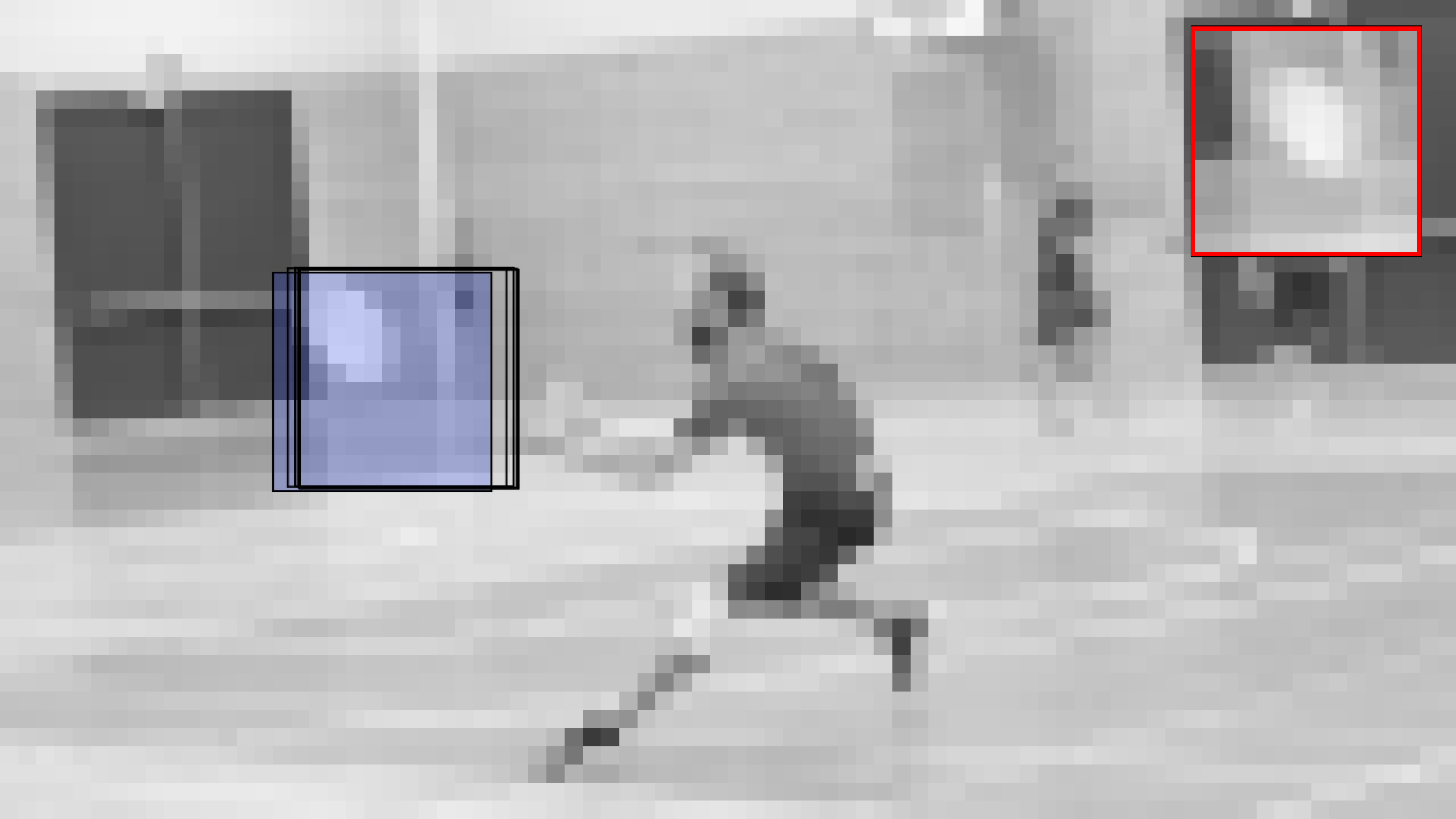
Luc Van Gool^{1,2}

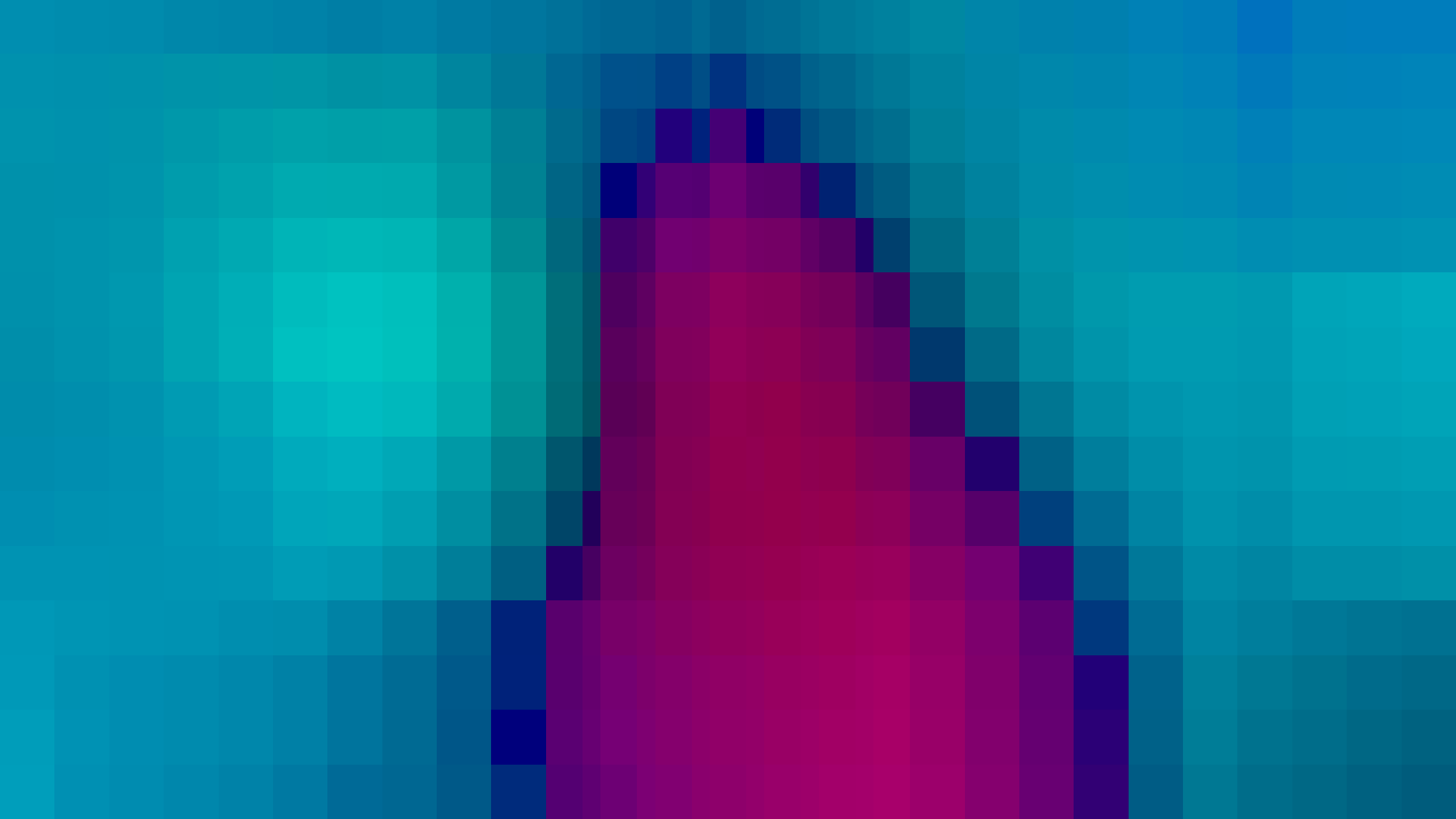
¹Computer Vision Laboratory, D-ITET, ETH Zurich

²VISICS / iMinds, ESAT, KU Leuven

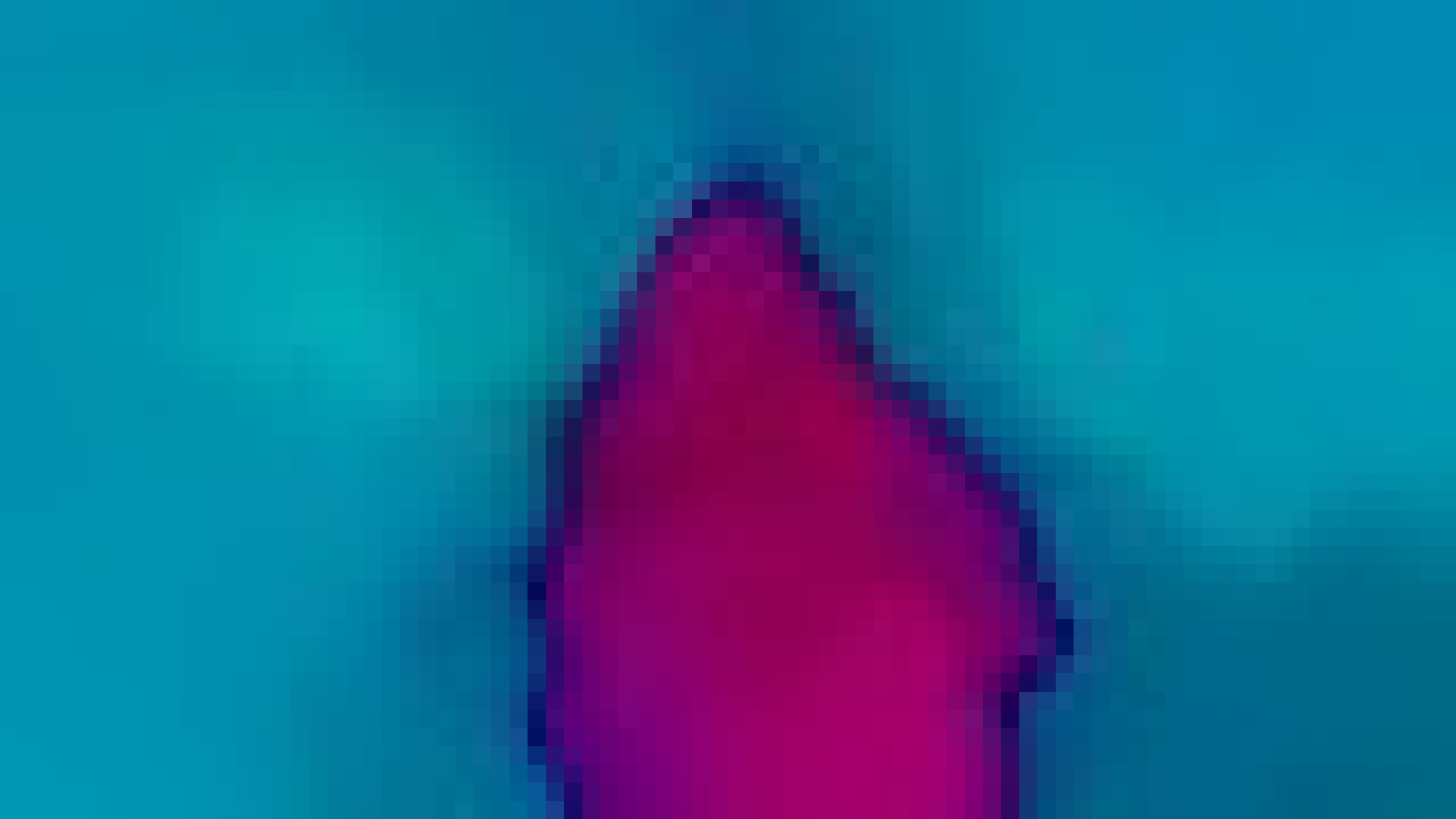
{kroegert, timofte, dai, vangool}@vision.ee.ethz.ch

Abstract. Most recent works in optical flow extraction focus on the accuracy and neglect the time complexity. However, in real-life visual applications, such as tracking, activity detection and recognition, the time complexity is critical. We propose a solution with very low time complexity and competitive accuracy for the computation of dense optical flow. It consists of three parts: 1) inverse search for patch correspondences; 2) dense displacement field creation through patch aggregation along multiple scales; 3) variational refinement. At the core of our *Dense Inverse Search*-based method (DIS) is the efficient search of correspondences inspired by the inverse compositional image alignment proposed by Baker and Matthews [1, 2]. DIS is competitive on standard optical flow benchmarks. DIS runs at 300Hz up to 600Hz on a single CPU core¹, reaching the temporal resolution of human’s biological vision system [3]. It is order(s) of magnitude faster than state-of-the-art methods in the same range of accuracy, making DIS ideal for real-time applications.

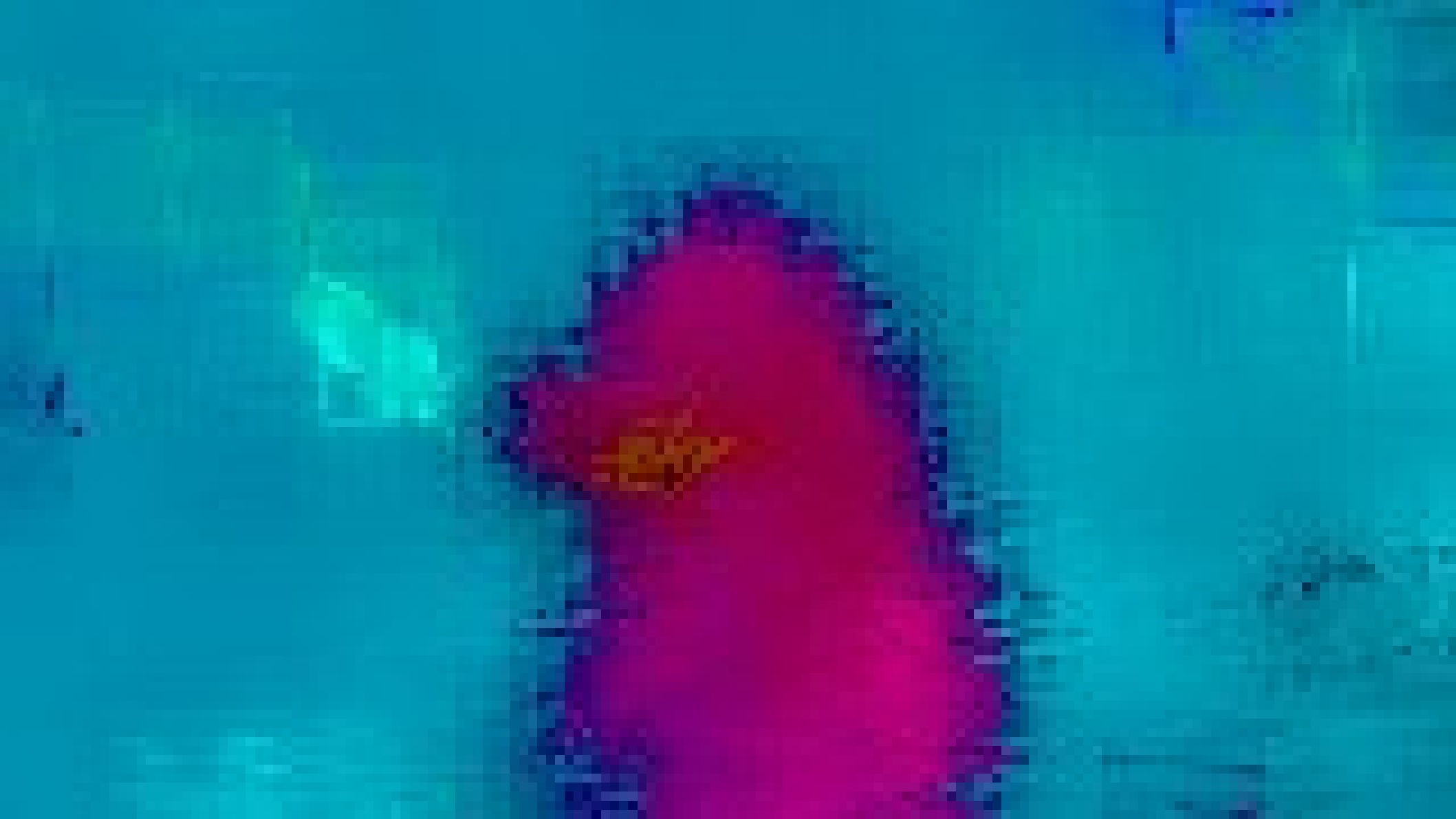




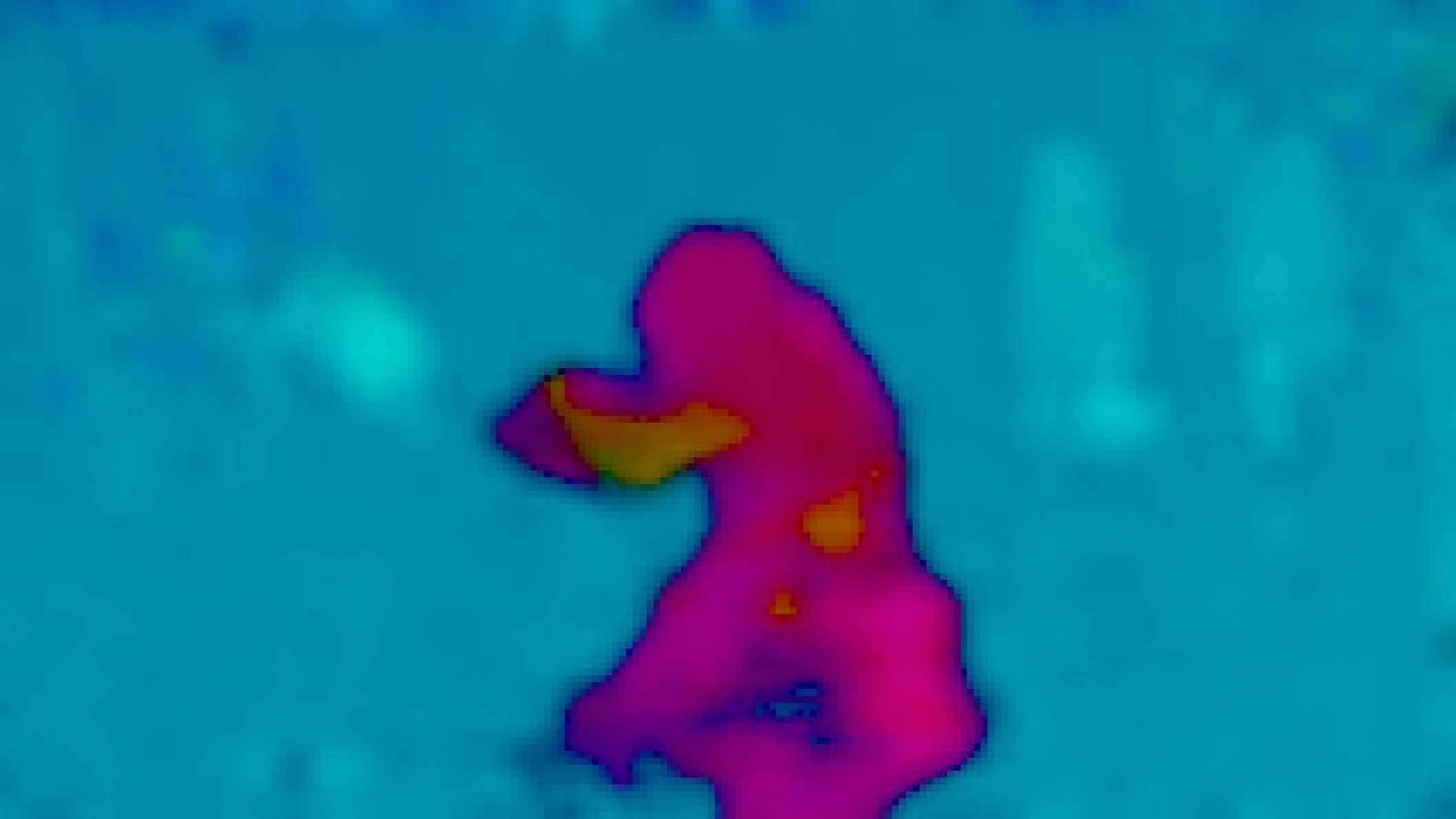


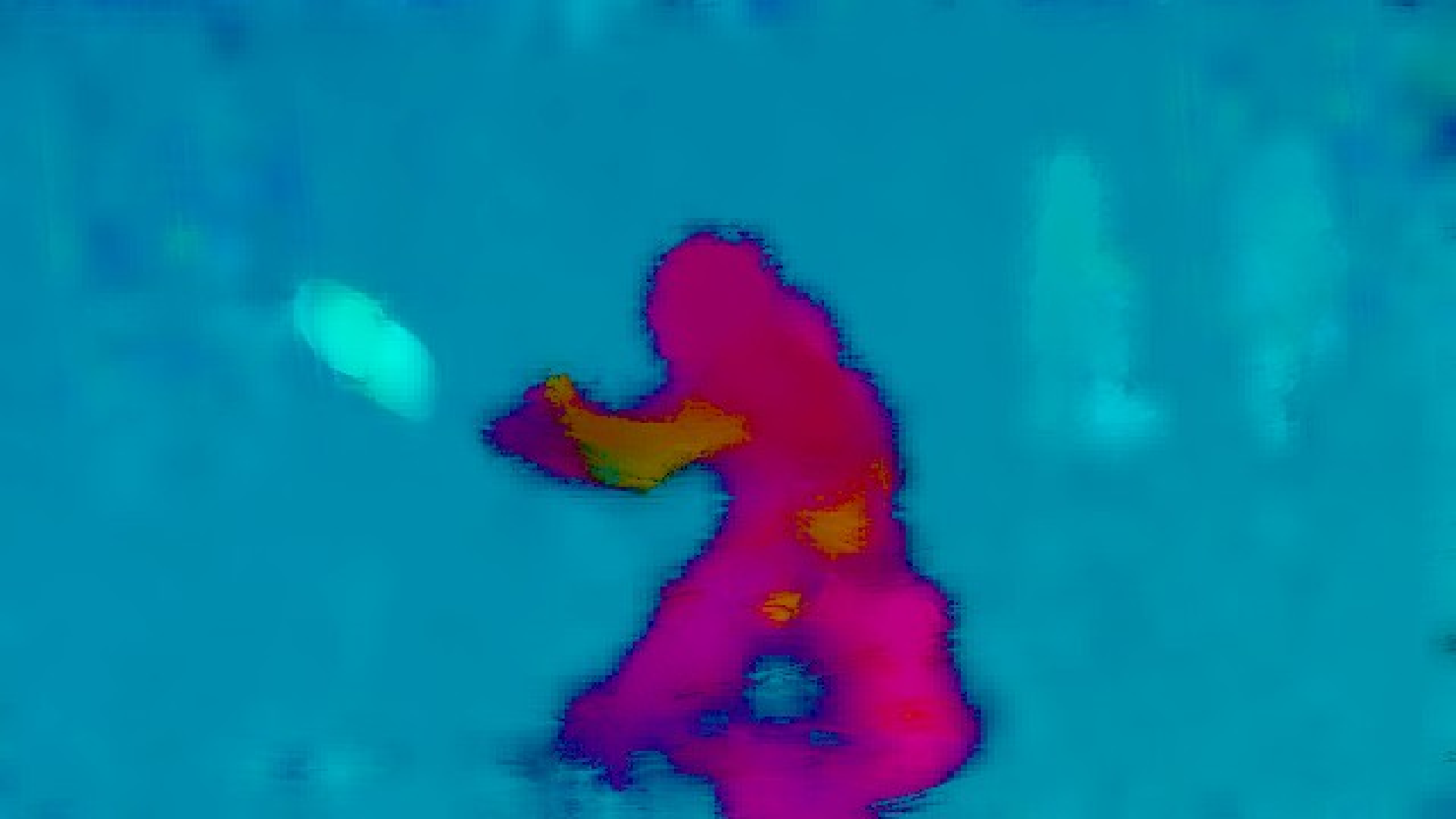


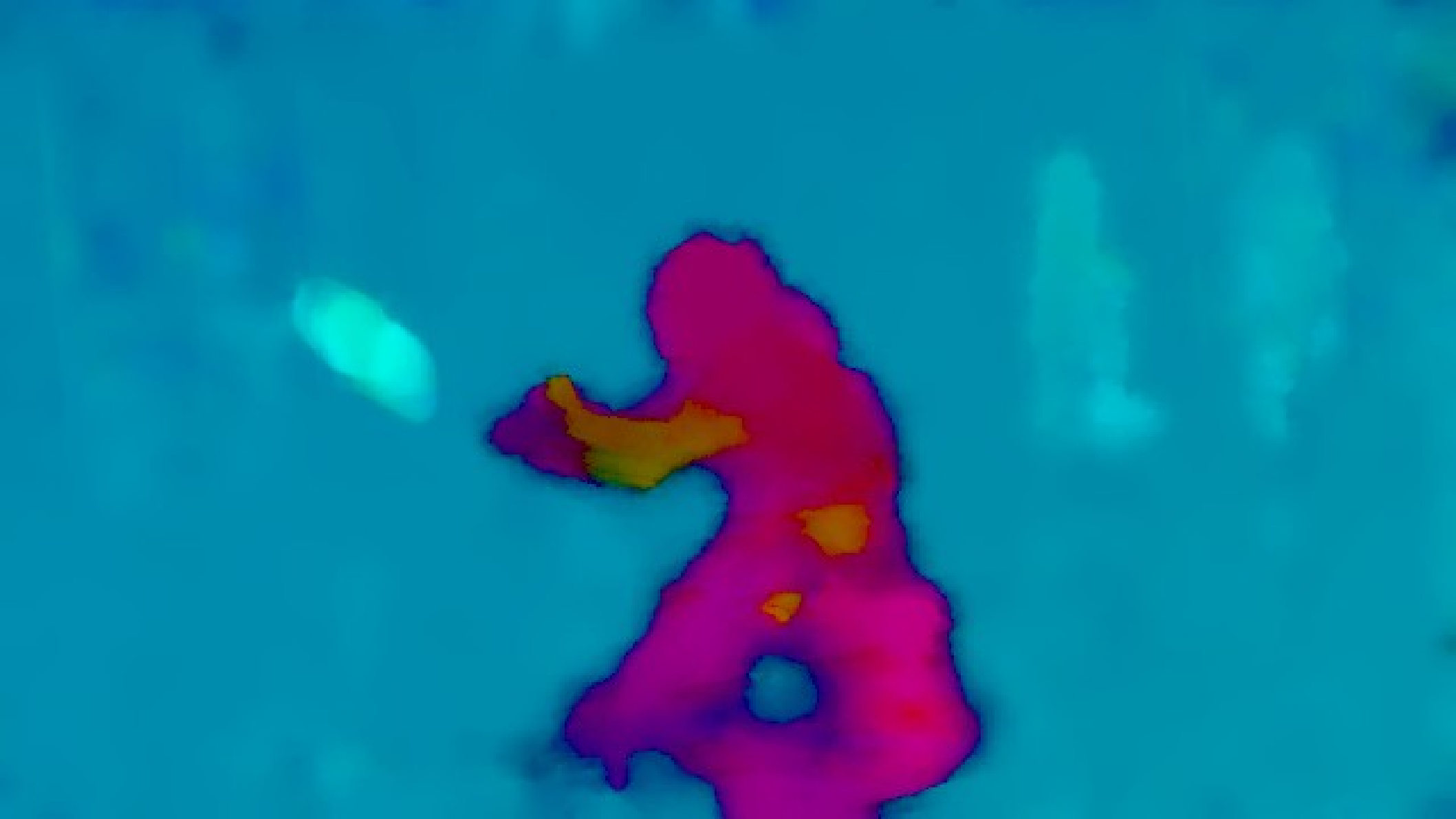


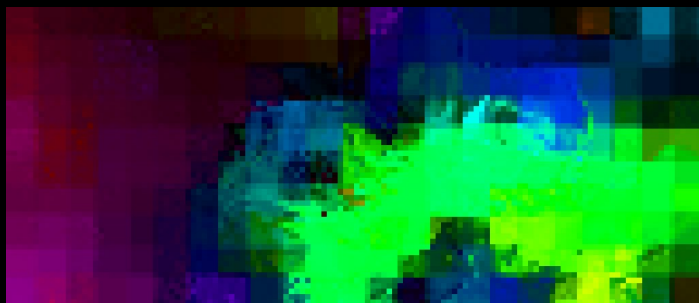
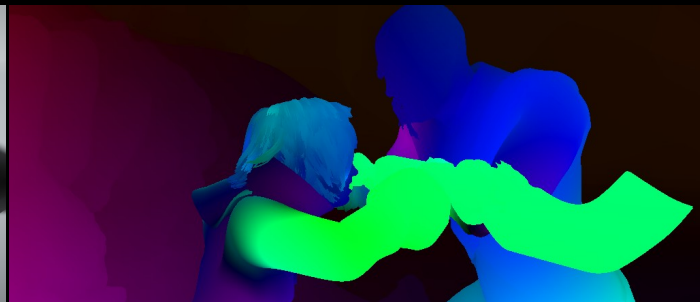




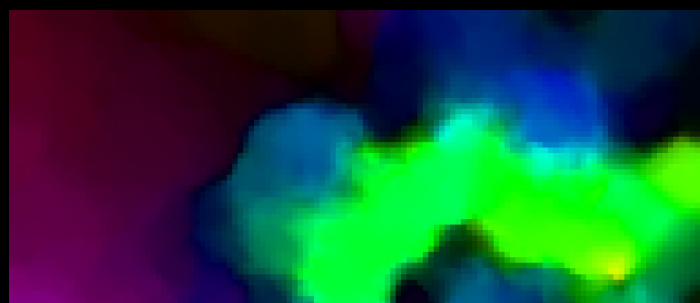




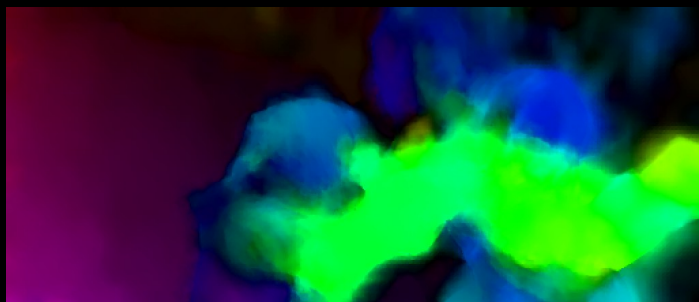




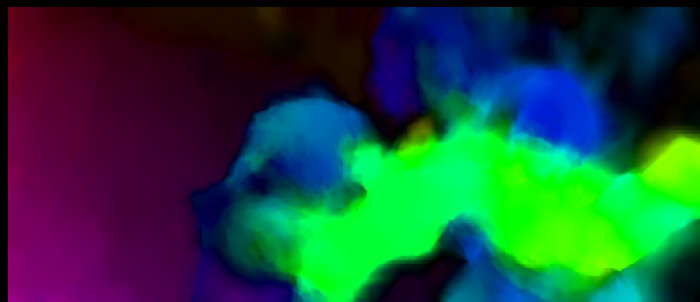
0.9 ms / 1.0 ms, EPE 14.69 px



1.1 ms / 1.4 ms, EPE 13.46 px



6.1 ms / 12.9 ms, EPE 11.98 px



164.7 ms / 353.6 ms, EPE 11.75 px

720p / 1080p frame time for full interpolation, RTX 2070





Demo!

Thank you!

(Video was removed from PDF due to size constraints, see it on [YouTube](#))

<https://nageru.sesse.net/>