

# Merrey Ramazanova

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Ph.D. candidate

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## EDUCATION

<b>Ph.D. in Computer Science</b> , <i>King Abdullah University of Science &amp; Technology</i> Image and Video Understanding Lab   Research Advisor: Prof Bernard Ghanem	2020 - Now
<b>Master of Science in Computer Science</b> , <i>King Abdullah University of Science &amp; Technology</i> Thesis: "SeedQuant: A Deep Learning-based Census Tool for Seed Germination of Root Parasitic Plants" Image and Video Understanding Lab   Research Advisor: Prof Bernard Ghanem   GPA: 3.62/4.00	2018 -2020
<b>Bachelor of Science in Computer Science</b> , <i>Nazarbayev University</i> GPA: 3.76/4.00 (Cum Laude), Major GPA: 3.88/4.00 (#1)   Dean's List Award – 4 semesters	2014 - 2018
<b>Visiting International Student</b> , <i>The University of Wisconsin-Madison</i> GPA: 4.0/4.0	2017

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## PUBLICATIONS

### Revisiting Test Time Adaptation under Online Evaluation [\[link\]](#)

*arXiv preprint 2023*

- **Publication:** Motasem Alfarra, Hani Itani, Alejandro Pardo, Shyma Alhuwaider, **Merrey Ramazanova**, Juan C Pérez, Zhipeng Cai, Matthias Müller, Bernard Ghanem. "Revisiting Test Time Adaptation under Online Evaluation".
- **Description:** This paper proposes a novel online evaluation protocol for Test Time Adaptation (TTA) methods, which penalizes slower methods by providing them with fewer samples for adaptation.

### Rethinking Temporal Information for Video Continual Learning [\[link\]](#)

*CVPRW 2023, Best Paper award*

- **Publication:** Lama Alssum, Juan Leon, **Merrey Ramazanova**, Chen Zhao, Bernard Ghanem. "Just a Glimpse: Rethinking Temporal Information for Video Continual Learning", CLVision Workshop (CVPRW 2023).
- **Description:** In this paper, we propose a novel replay mechanism for effective video continual learning based on individual/single frames. Through extensive experiments, we show that video diversity plays a more significant role under strong memory constraints than temporal information.

### OWL (Observe, Watch, Listen): Audiovisual Temporal Context for Localizing Actions in Egocentric Videos [\[link\]](#)

*CVPRW 2023, Spotlight on the Ego4D Workshop at ECCV 2022*

- **Publication:** **Merrey Ramazanova**, Victor Escorcia, Fabian Caba Heilbron, Chen Zhao & Bernard Ghanem. "OWL (Observe, Watch, Listen): Localizing Actions in Egocentric Video via Audiovisual Temporal Context." Workshop on Learning With Limited Labelled Data for Image and Video Understanding (L3D-IVU, CVPRW 2023).
- **Description:** In this work, we take a deep look into the effectiveness of audio in detecting actions in egocentric videos and introduce a simple-yet-effective approach via Observing, Watching, and Listening (OWL) to leverage audio-visual information and context for egocentric TAL.

### SegTAD: Precise Temporal Action Detection via Semantic Segmentation [\[link\]](#)

*ECCVW 2022*

- **Publication:** Chen Zhao, **Merrey Ramazanova**, Mengmeng Xu & Bernard Ghanem. "SegTAD: Precise Temporal Action Detection via Semantic Segmentation." Computer Vision–ECCV 2022 Workshops: Tel Aviv, Israel, October 23–27, 2022, Proceedings, Part IV.
- **Description:** We propose an end-to-end framework SegTAD composed of a 1D semantic segmentation network (1D-SSN) and a proposal detection network (PDN).

### Ego4D: Around the World in 3,000 Hours of Egocentric Video [\[link\]](#)

*CVPR 2022, 1/33 Best Paper Finalist*

- **Publication:** Kristen Grauman, ... , **Merrey Ramazanova\***, ... , Jitendra Malik. "Ego4d: Around the world in 3,000 hours of egocentric video." In the Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR, 2022). (\* := key contributor)
- **Description:** We introduce Ego4D, a massive-scale egocentric video dataset and benchmark suite. It offers 3,670 hours of daily-life activity video spanning hundreds of scenarios (household, outdoor, workplace, leisure, etc.) captured by 931 unique camera wearers from 74 worldwide locations and 9 different countries.

## SeedQuant: a deep learning-based tool for assessing stimulant and inhibitor activity on root parasitic seeds [\[link\]](#)

*Plant physiology* 2021

- **Publication:** Justine Braguy\*, **Meray Ramazanova\***, Silvio Giancola\*, Muhammad Jamil, Boubacar A Kountche, Randa Zarban, Abrar Felemban, Jian You Wang, Pei-Yu Lin, Imran Haider, Matias Zurbriggen, Bernard Ghanem & Salim Al-Babili. "SeedQuant: a deep learning-based tool for assessing stimulant and inhibitor activity on root parasitic seeds." *Plant Physiology* 186 (2021): 1632 - 1644. (\* := equal contribution)
- **Description:** We combined deep learning, a powerful data-driven framework that can accelerate the procedure and increase its accuracy, for object detection with computer vision latest development based on the Faster Region-based CNN algorithm. Our method showed an accuracy of 94% in counting seeds of *Striga hermonthica* and reduced the required time from approximately 5 min to 5 s per image.

## RELEVANT EXPERIENCE & AWARDS

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### Rising Stars in AI Symposium 2022 [\[link\]](#)

Invited to give a talk about Ego4D dataset 2022

**Teaching Assistant: Deep Learning for Visual Computing** 2021

**Teaching Assistant: Deep Learning for Visual Computing** 2020

**Coursera Deep Learning Specialization [\[link\]](#)** 2019

**The 3rd YouTube-8M Video Understanding Challenge** 2019

Temporal localization of topics within video [\[link\]](#) | Team Leader | 9/284 on Public Leaderboard, 11/284 on Private Leaderboard

### Google Get Ahead Program

8-week virtual program for selected CS students from all over EMEA | The program involves technical challenges, YouTube live trainings and interview workshops 2019

**JUNCTIONxKAUST 2018 (Hackathon), King Abdullah University of Science & Technology, Saudi Arabia**

Product: " Used face recognition libraries to develop AI Tagger - a Telegram chatbot for sharing photos with friends" 2018

### KAUST Fellowship

A generous fellowship provided for MS/PhD students at KAUST 2018

**Yessenov Foundation Data Science Lab [\[link\]](#), Almaty, Kazakhstan**

10-week intensive program for selected participants ( 20% acceptance rate ): Python, Numpy, Pandas, regression and classification models, neural networks (basics), computer vision (basics), TensorFlow, data visualization, solving real cases of Kazakhstani banks and companies (Kaspi Lab) 2018

**Yessenov Foundation Grant, Almaty, Kazakhstan**

Awarded with 1/20 generous grants for Data Science Lab (acceptance rate ~20%) 2018

**Research Internship, Okinawa Institute of Science and Technology Graduate University, Okinawa, Japan**

Computational Neuroscience unit | Supervisor: Prof Eric De Shutter

Topic: "Sensitivity analysis for exact stochastic simulation of reaction-diffusion systems" 2018

**ABC Hack (Hackathon), Astana, Kazakhstan**

Developed Android Mobile Application: enhancing functionality for a video job interview (**winner**) 2017

**NFactorial Summer Startup Incubator, Almaty, Kazakhstan**

12-week intensive program for selected participants: Android development workshops, lectures on marketing and design | Developed mobile application "Craft", a marketplace for handmade items in Kazakhstan 2016

**Research Internship, Tokai University (Sakura Exchange Program in Science), Tokyo, Japan**

Topic: "Programming active bone-conducted sound sensing for wearable interfaces" | Supervisor: Prof Kentaro Takemura 2016