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Merey Ramazanova

Ph.D. candidate

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Education

Ph.D. in Computer Science, *King Abdullah University of Science & Technology* 2020 - Now
Image and Video Understanding Lab | Research Advisor: Prof Bernard Ghanem
Master of Science in Computer Science, *King Abdullah University of Science & Technology* 2018 -2020
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
Bachelor of Science in Computer Science , *Nazarbayev University*
GPA: 3.76/4.00 (Cum Laude), Major GPA: 3.88/4.00 (#1) | Dean's List Award – 4 semesters 2014 - 2018
Visiting International Student , *The University of Wisconsin-Madison*
GPA: 4.0/4.0 2017

Publications

Ego4D: Around the World in 3,000 Hours of Egocentric Video [link]
Conference on Computer Vision and Pattern Recognition (CVPR) - 2022, 1/33 Best Paper Finalist

- **Publication:** Kristen Grauman et al. "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).
- **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.

OWL (Observe, Watch, Listen): Localizing Actions in Egocentric Video via Audiovisual Temporal Context [link]
ArXiv preprint

- **Publication:** *Merey Ramazanova*, Victor Escorcia, Fabian Caba Heilbron, Chen Zhao & Bernard Ghanem. "OWL (Observe, Watch, Listen): Localizing Actions in Egocentric Video via Audiovisual Temporal Context." ArXiv abs/2202.04947 (2022).
- **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.

SeedQuant: a deep learning-based tool for assessing stimulant and inhibitor activity on root parasitic seeds [link]
Plant physiology - 2021

- **Publication:** Justine Braguy*, *Merey 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.

SegTAD: Precise Temporal Action Detection via Semantic Segmentation [link]
ArXiv preprint

- **Publication:** Chen Zhao, *Merey Ramazanova*, Mengmeng Xu & Bernard Ghanem. "SegTAD: Precise Temporal Action Detection via Semantic Segmentation." ArXiv abs/2203.01542 (2022).
- **Description:** We propose an end-to-end framework SegTAD composed of a 1D semantic segmentation network (1D-SSN) and a proposal detection network (PDN).

Logistic Regression is Still Alive and Effective: The 3rd YouTube 8M Challenge Solution of the IVUL-KAUST team [link]
International Conference on Computer Vision (ICCV) Workshops -2019

- **Publication:** *Merey Ramazanova*, Chen Zhao, Mengmeng Xu, Humam Alwassel, Sara Rojas Martinez, Fabian Caba & Bernard Ghanem. "Logistic Regression is Still Alive and Effective: The 3rd YouTube 8M Challenge Solution of the IVUL-KAUST team." The IEEE International Conference on Computer Vision (ICCV, 2019) Workshops.
- **Description:** In this report, we present our solution for the 3rd YouTube-8M Video Understanding Challenge for a task of temporal localization of topics within a video.

Relevant Experience & Awards

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 AITagger - 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