

Ramy Mounir

PHD STUDENT · CSE

University of South Florida, Tampa, FL 33647

☎ 813-397-9373 | ✉ ramy@usf.edu | 🏠 ramymounir.com | 📺 ramyamounir | 🎓 Scholar

Summary

Third-year PhD candidate in the AI+X research group at the University of South Florida (USF) under the supervision of Dr. Sudeep Sarkar. Before that, I received my Bachelor's and Master's degrees in mechanical engineering while working on robotics and assistive technologies.

Research Interests: Computer Vision, Perception, Hierarchical Representation Learning, and Cognitive Psychology.

Education

University of South Florida

PhD, Computer Science and Engineering

Tampa, FL

Expected 2024

- Advisor: Dr. Sudeep Sarkar
- Research: Cognitive models, Self-supervised Representation Learning, Streaming datasets
- GPA: 4.0

University of South Florida

M.SC, Mechanical Engineering

Tampa, FL

2018

- Advisor: Dr. Redwan Alqasemi
- Co-Advisor: Dr. Rajiv Dubey
- Research: Assistive technology, autonomous navigation, Brain computer interface
- GPA: 4.0

University of South Florida

B.SC, Mechanical Engineering

Tampa, FL

2015

- Dean's list - All semesters
- Summa Cum Laude
- GPA: 3.96

Book Chapters

Self-supervised Event Segmentation, Ramy Mounir, Sathyanarayanan N. Aakur and Sudeep Sarkar. Advanced Methods and Deep Learning in Computer Vision (Ch.12), *Elsevier 2021*, ISBN: 9780128221099 [[Chapter](#)]

Publications

Time-Series Analysis of Video Graphs Using Joint Kalman Smoothing and Registration, Aditi Bal, Ramy Mounir, Sathyanarayanan Aakur, Sudeep Sarkar and Anuj Srivastava. *ECCV 2022* [[Paper](#)] [[website](#)] [[Video](#)]

Towards Automated Ethogramming: Cognitively-Inspired Event Segmentation for Streaming Wildlife Video Monitoring, Ramy Mounir, Ahmed Shahabaz, Roman Gula, Jörn Theuerkauf and Sudeep Sarkar. *CV4Animals@CVPR 2022, IJCV* [[website](#)]

Spatio-Temporal Event Segmentation and Localization for Wildlife Extended Videos, Ramy Mounir, Roman Gula, Jörn Theuerkauf and Sudeep Sarkar. *CVIP 2021, CV4Animals@CVPR 2021* [[Paper](#)] [[website](#)] [[Video](#)]

Polyrhythmic Bimanual Coordination Training using Haptic Force Feedback, Ramy Mounir and Kyle Reed. *ArXiv 2019* [[Paper](#)] [[website](#)] [[Code](#)]

BCI-Controlled Hands-Free Wheelchair Navigation with Obstacle Avoidance, Ramy Mounir, Redwan Alqasemi, and Rajiv Dubey. *IROS 2018 workshop* [[Paper](#)] [[website](#)] [[Video](#)]

Recent Assistive Technology Research at CARRT, Ramy Mounir, Urvis Trivedi, Andoni Aguirrezabal, Daniel Ashley, Stephen Sundarrao, Redwan Alqasemi, and Rajiv Dubey. *RESNA 2018* [[Paper](#)] [[website](#)] [[Video](#)]

Speech Assistance for Persons With Speech Impediments Using Artificial Neural Networks, Ramy Mounir, Redwan Alqasemi, and Rajiv Dubey. *ISG 2018, ASME IMECE 2017* [[Paper](#)] [[website](#)] [[Slides](#)]

Datasets

Bus Stop Tracking

<https://ramymounir.com/publications/BayesianTracking/>

2022

- 9000 Frames annotated with bounding box for over 25 actors
- Ids of actors are consistent across frames to be used for tracking evaluation
- The dataset features occlusions, partial and reappearing detections
- Video extracted from the Meva dataset

Kagu Wildlife Monitoring

<https://ramymounir.com/publications/AutomatedEthogramming/>

2021

- Ten days of continuous streaming of the Kagu bird various environmental and lighting conditions
- 23 million frames annotated with spatial bounding box
- 5 events annotated temporally (e.g., walk in/out, nest building, feeding)
- Annotations for various environmental and time-of-day conditions (e.g., shadows, sunrise, sunset, etc.)

Awards & Certificates

2022 **Outstanding Reviewer award, ECCV'22**

2022 **Highlighted Reviewer award, ICLR'22**

2018 **Robotics Graduate Certificate, USF**

2017 **Early Innovation Award, Intel Corporation**

\$5,300

2016 **Engineer in Training/ FE Mechanical, NCEES**

2015 **Outstanding Graduate Award, University of South Florida**

2015 **Certified LabVIEW Associate Developer, National Instruments**

2014 **Certified Solidworks Associate (CSWA), Dassault Systèmes**

Reviews

2023 **CVPR, ICML, WACV,**

2022 **CVPR, ECCV, NeurIPS, ICLR, WACV, IEEE RA-L, ACM MM,**

2021 **CLVision@CVPR, ACM MM,**

Skills

Programming Python (PyTorch, Tensorflow, NumPy, Pandas, Scikit-learn. etc.), C++/C#

Miscellaneous Linux, Shell, Vim, Unity3D, \LaTeX , Git, LabView, SolidWorks

Languages English, Arabic

Blog Articles

2021 **Distributed Data Parallel with Slurm, Submitit & PyTorch,**

Medium

Professional Experience

2020-Now Graduate Research Assistant, Computer Science, USF

2021-Now ML Consultant, MLearning.ai

2016-Now Artificial Intelligence Student Ambassador, Intel Corporation

2016-2020 Graduate Teaching Assistant, Mechanical Engineering, USF

2016-2020 Graduate Research Assistant, Mechanical Engineering, USF

2014-2017 R&D engineer, EarthLinked Technologies, Inc.

Teaching Experience

- 2020 **Capstone Design**, Teaching Assistant
- 2019 **Capstone Design**, Teaching Assistant
- 2019 **Capstone Design**, Teaching Assistant
- 2018 **Capstone Design**, Teaching Assistant
- 2018 **Programming Concepts Mech Engr**, Teaching Assistant
- 2018 **Mechanical Engineering Lab I**, Teaching Assistant
- 2017 **Mechanical Engineering Lab I**, Teaching Assistant
- 2017 **Capstone Design**, Teaching Assistant
- 2016 **Capstone Design**, Teaching Assistant

Outreach & Professional Development

SERVICE AND OUTREACH

- 2020 **Synapse Summit**, Exhibitor
- 2019 **Miami Dade college lab tour**, Presenter
- 2019 **Pasco County Engineering Day**, Exhibitor
- 2019 **HCC Major EXPO**, Exhibitor
- 2019 **Polk state college lab tour**, Presenter
- 2019 **Manatee county engineering day**, Presenter
- 2018 **Pre-College BME Lab Tours**, Presenter
- 2017-2020 **Engineering EXPO (annual event)**, Exhibitor
- 2018-2019 **Roboticon (annual event)**, Exhibitor
- 2018 **Museum of Science and Technology**, Exhibitor
- 2017 **Middleton High School**, Presenter
- 2017 **Girl Scouts lab tour**, Presenter

References available upon request.