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Amirhossein Kardoost

Skype: AmirhosseinKardoost
Websites: Personal Website, **LinkedIn**, **Google Scholar**

Education

University of Siegen
Ph.D. Student, Siegen, Germany, May, 2022-Now
Successfully Defended on February, 2023

University of Mannheim
Ph.D. Student, Mannheim, Germany, 2017 - May, 2022

University of Mannheim
Scientific Researcher, Mannheim, Germany, 2017 - 2021

Saarland University
M.Sci., Computer Science, Saarbrücken, Germany, 2013 - 2017

Institute for Advanced Studies in Basic Sciences (IASBS)
B.Eng., Information Technology, Zanjan, Iran, 2008 - 2012

Research Interests

Machine Learning and Pattern Recognition
Video Object and Motion Segmentation

Work Experience

Software Developer-with focus on AI and Computer Vision
European XFEL, Schenefeld, Germany, February, 2021 - Now

Research Assistant Experience

Estimation of Texture Orientation
Fraunhofer Institute for Nondestructive Testing **(IZFP)**
Saarbrücken, Germany
January, 2015 - December, 2015

Mobia Project
German Research Center for Artificial Intelligence **(DFKI)**
Saarbrücken, Germany
January, 2014 - December, 2014

3D Reconstruction of Visual Information
Max-Planck-Institute for Informatics **(MPI)**
Saarbrücken, Germany
May, 2013 - February, 2014

Theses

Ph.D.'s Thesis
Minimum Cost Multicuts for Image and Motion Segmentation
Projects Implemented in **PyTorch, Python, C++** and **CUDA**

Master's Thesis
Alignment of Tilt-Series by Non-Convex Optimization
Implemented in **C++**

Bachelor's Thesis
Machine vision - Detection and Recognition of Face with **OpenCV** Library
Implemented in **C++**

Publications

[1] Higher-Order Multicuts for Geometric Model Fitting and Motion Segmentation
Evgeny Levinkov*, **Amirhossein Kardoost***, Bjoern Andres, Margret Keuper
TPAMI Journal 2022

[2] Solving Minimum Cost Lifted Multicut Problems by Node Agglomeration
Amirhossein Kardoost and Margret Keuper
ACCV 2018
Project Website, Code

[3] Object Segmentation Tracking from Generic Video Cues
Amirhossein Kardoost, Sabine Müller, Joachim Weickert, Margret Keuper
ICPR 2020
YouTube Link

[4] Self-supervised Sparse to Dense Motion Segmentation
Amirhossein Kardoost, Kalun Ho, Peter Ochs, Margret Keuper
ACCV 2020
Code

[5] Uncertainty in Minimum Cost Multicuts for Image and Motion Segmentation
Amirhossein Kardoost and Margret Keuper
UAI 2021

[6] A Two-Stage Minimum Cost Multicut Approach to Self-Supervised Multiple Person Tracking
Kalun Ho, **Amirhossein Kardoost**, Franz-Josef Pfreundt, Janis Keuper, Margret Keuper
ACCV 2020

[7] Optimizing Edge Detection for Image Segmentation with Multicut Penalties
Steffen Jung, Sebastian Ziegler, **Amirhossein Kardoost**, Margret Keuper
GCPR 2022

Paper Reviewer

CVPR, ICCV, AAAI, BMVC

Summer School

International Computer Vision Summer School **(ICVSS)**
July, 2019, Sicily, Italy

Visiting Researcher

Max-Planck-Institute for Informatics **(MPI)**
Computer Vision Group
January, 2019 - February, 2019, Saarbrücken, Germany

Honors and Awards

Rank 2 in Computer Science Department of (IASBS)
(Among top 10% of Class)
Zanjan, Iran
May, 2012

50% Tuition Scholarship from Tagliatela College of Engineering
Boston, USA
September, 2012

Computer Skills

Ordered from left to right for each section

Machine Learning Libraries

- PyTorch, Keras, TensorFlow

Programming Languages

- Python, C++, C#

Web Developement

- HTML, CSS, JavaScript, jQuery, EJS, Node.js

Database Management System

- MySQL, PostgreSQL

Programming Libraries

- OpenCV, OpenGL

Language Skills

English (Fluent)
German (Intermediate)

References and transcripts will be provided upon request.