

# Mahya Mohammadi Kashani

*Curriculum Vitae*

## PERSONAL DETAILS

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## RESEARCH INTEREST

Underwater Robots Testing, NLP, Large Language Models, Probabilistic Programming, Self-supervised Learning, Sparse Coding, and Dictionary Learning

## EDUCATION

### PhD Computer science

2021-present

*IT-University of Copenhagen, Copenhagen, Denmark*

Major: Marie-Curie PhD fellowship within **Reliable AI for Marine Robotics Innovative Training Network (REMARO ITN)**

Thesis Title: **Statistical assessment of plans via probabilistic optimization of reliability,**

under supervision of **Prof. Andrzej Wasowski**

### MSc. Computer Engineering

2016-2019

*Shahid Rajaei Teacher Training University, Tehran, Iran*

Major: **Artificial Intelligence**

Thesis Title: **Search-based automatic image annotation using deep models,**

Class Rank: 3th place among 2016-2019 MSc. Students

GPA:18.12/20 (3.88/4)

### BSc. Computer Engineering

2010-2014

*Shahid Rajaei Teacher Training University, Tehran, Iran*

Major: **Software Engineering**

Thesis Title: **Development of a Filter Driver for Disk Access Control in Lowest Level of Drivers Hierarchy.**

Class Rank: Top 10%

GPA:17.18/20 (3.57/4)- Last two years: 17.89/20 (3.89/4)

## PUBLICATIONS

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### To be submitted

Mar2024

**Mahya M. Kashani**, Tobias John, Jeremy P. Coffelt, Einar B. Johnsen and Andrzej Wasowski, "To be submitted to IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS'24)." Abstract

### Extended Abstract

Nov. 2023

Tobias John, **Mahya M. Kashani**, Jeremy P. Coffelt, Einar B. Johnsen, and Andrzej Wasowski. "In the 34<sup>th</sup> Nordic Workshop in Programming Theory (NWPT'23)", Extended Abstract, November 22-23, 2022, Mälardalens högskola, Västerås, Sweden. 2023. Preprint

### Conference

Aug. 2022

Jeremy P. Coffelt, **Mahya Mohammadi Kashani**, Andrzej Wasowski, and Peter Kampmann. "Belief-based fault recovery for marine robotics." In The Eighth Joint Ontology Workshops (JOWO'22), August 15-19, 2022, Jönköping University, Sweden. 2022. Paper

### Journal

Mar. 2022

Roostaiyan, Seyed Mahdi, Mohammad Mehdi Hosseini, **Mahya Mohammadi Kashani**, and S. Hamid Amiri. "Toward real-time image annotation using marginalized coupled dictionary learning." Journal of Real-Time Image Processing 19, no. 3 (2022): 623-638. Preprint

### The quarterly journal

Feb. 2022

**Mohammadi Kashani, Mahya**, and S. Hamid Amiri. "Scalable Image Annotation by Summarizing Training Samples into Labeled Prototypes." Signal and Data Processing 18, no. 4 (2022): 49-68. Abstract

### Conference

Oct. 2017

**Mahya Mohammadi Kashani**, and S. Hamid Amiri. "Leveraging deep learning representation for search-based image annotation." Artificial Intelligence and Signal Processing Conference (AISP), 2017. IEEE, 2017, DOI:10.1109/AISP.2017.8324073

## ACADEMIC EXPERIENCE

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### Teaching Assistant

Fall 2021-23

*Computer Science Department in IT-University of Copenhagen*

**Course Title: Advanced Functional Programming(Scala)** (Grad Course) Under supervision of **Prof. Andrzej Wasowski**

### Visiting Scholar

Spring 2023

*Institute for Artificial Intelligence (IAI) building at University of Bremen*

Under supervision of **Prof. Michael Beetz** (Grad level)

### Research Assistant

2017-2019

*Computer Vision and Pattern Recognition Lab in Shahid Rajaei University, Full-time*

Activities: Research Assistant the Lab,

work on various projects, Title project: Toward real-time image annotation using marginalized coupled dictionary learning

Providing Research Proposal which has been accepted recently.

helping Bachelor project of 2 undergraduate students. Title project: **Development and**

implementation of automatic image annotation systems.

**Teaching Assistant**

Fall 2019

*Computer Engineering Department in Shahid Rajaei University*

**Course Title: Stochastic Processes** (Grad Course)

Activities: Designing assignments and Solving problems of probability, random variables, and stochastic processes book written by A. Papoulis .

**Teaching Assistant**

Spring 2018

*Computer Engineering Department in Shahid Rajaei University*

**Course Title: Digital Signal Processing** (Grad Course)

Activities: Solving problems of Digital Signal Processing book written by Vinay K. Ingle, John G. Proakis, helping students in solving assignments.

**Teaching Assistant**

Fall 2018

*Computer Engineering Department in Shahid Rajaei University*

**Course Title: Signals and Systems** (UnderGrad Course)

Activities: Solving problems of Signal Processing and Linear Systems book written by B. P. Lathi, helping students in final project.

**Teaching Assistant**

Fall 2017

*Computer Engineering Department in Shahid Rajaei University*

**Course Title: Stochastic Processes** (Grad Course)

Activities: Designing assignments and Solving problems of probability, random variables, and stochastic processes book written by A. Papoulis.

## WORK EXPERIENCE

**Computer Vision Engineer**

2020-2021

*Robotics Lab in Shahid Rajaei University*

Projects: Waste segregation robot (Funded by Municipality of 21st district of Tehran)

Skills: Computer Vision, Image Processing, Deep Learning, Industrial Camera Calibration, In Collaboration with Mechanical and Electrical Engineers

**Python Developer**

2018-2021

*SoftRemedy Inc. (Asan Darman Arya), Project-based*

Projects: Pill Reminder APP, Health Online Shop and some other Panels

Skills: Back-end Developer, data pre-processing, re-Design ORM

## PROJECTS

Mission Assistant of Marine Robots by Encyclopaedic Roadmap, 2023-present  
Statistical assessment of plans via probabilistic optimization of reliability, 2021-2024

Search-based Image Annotation using Deep Models, 2017-2021

Scalable Image Annotation via Semantic Prototypes Learning, 2018-2019

Pill Reminder App, 2019-2021

Health Online Shopping App, 2020- 2021

Waste segregation Robot *Computer Vision Section, Camera Calibration*, 2020-2021

## NOTABLE COURSES

Probabilistic Programming, Introductory on Semantic Logics

Machine Learning and Neural Networks and Cognitive Science

Stochastic Processes, Numerical Optimization, Numerical Analysis  
Engineering statistics and probabilities, Digital Signal Processing  
Digital Image Processing, Computer Vision  
Statistical Pattern Recognition

## GENERAL SKILLS

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<i>Languages</i>	Persian (native) English (CEFR 117.5/150)
<i>Programming</i>	PYTHON, MATLAB, ROS, C++
<i>Frameworks</i>	TENSORFLOW, KERAS, PYTORCH
<i>Web Designing</i>	OOP, RESTFUL API, FLASK, DESIGNING PATTERNS, HTML/CSS/JS
<i>DataBases</i>	SQLSERVER, MYSQL REDIS, MONGO
<i>Editing</i>	L <sup>A</sup> T <sub>E</sub> X, MSOFFICE, PREZI
<i>OS</i>	LINUX, WINDOWS

## REFERENCES

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**Prof. Andrzej Wasowski**, Full Professor and Coordinator at REMARO ITN  
Department of Computer Science, IT-University of Copenhagen, Københavns, København,  
Danmark [wasowski@itu.dk](mailto:wasowski@itu.dk)

**Prof. Einar B. Johnsen**, Full Professor, Supervisor in my Master's program  
Department of Informatics, University of Oslo (UiO), Oslo, Norway [Einarj@ifi.uio.no](mailto:Einarj@ifi.uio.no)

**Dr. Alireza Bosaghzade**, Assistant Professor and Advisor in Robotics Lab  
Shahid Rajae Teacher Training University, Lavizan, Tehran, Iran [Einarj@ifi.uio.no](mailto:Einarj@ifi.uio.no)

## ADDITIONAL INFO

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You can check out my talks and proposal in my personal website