


# SEPIDEH SHAMSIZADEH


AI and Robotics


Swiss work permit B

 Zurich, Switzerland

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 [SepShams](https://github.com/SepShams)

## HIGHLIGHTS

- Machine Learning Engineer: 4+ years of professional experience in designing, developing, and deploying machine learning pipelines.
- Computer Vision Engineer: 3+ years of research and industrial experience in computer vision techniques.
- Robotics Engineer: 2+ years of research and Bosch competition experience in Robot perception and Kinematics.

## RESEARCH INTERESTS

- Robotics
- Computer Vision
- Reinforcement Learning

## EDUCATION

University of Padova,  
Italy, 2020 - 2023

**M.Sc. in Computer Engineer, AI and Robotics, GPA 101/110**

**Thesis:** Dataset of Panoramic Images for People Tracking in Service Robotics

**Selected Courses:** Intelligent Robotics, Robotics and Control, Industrial Robotics, Computer Vision, 3D Vision, Machine Learning, and Artificial Intelligence

University of Tehran,  
Iran, 2014-2017

**M.Sc. in Information Technology Engineering, GPA 16.86/20**

**Thesis:** A novel algorithm to identify cancer-associated microRNAs

**Selected Courses:** Application of Intelligence in Medicine, Probabilistic Graphical Model, and Fuzzy Decision Making System

University of Technology  
Kermanshah, Iran  
2010-2014

**B.Sc. in Information Technology Engineering**

**Thesis:** Extracting the customer satisfaction factors of web services using clustering techniques

## PUBLICATIONS

- Bacchin, A., Barcellona, L., Shamsizadeh, S., Olivastri, E., Pretto, A., and Menegatti, E. 2023 Sep. **PanNote: an Automatic Tool for Panoramic Image Annotation of People's Positions.** Submitted in 2024 IEEE International Conference on Robotics and Automation (ICRA 2024).
- Shamsizadeh, S., Goliaei, S., Moghadam, Z. R. (2019). **CAMIRADA: Cancer microRNA association discovery algorithm, a case study on breast cancer.** Journal of biomedical informatics, 94, 103180.

## WORK EXPERIENCE

Eurapco, Zurich  
Nov 2023- Current

**Junior Project Manager**

- Lead projects involving the integration of Large Language Models (LLM) and knowledge graphs within the AI team, ensuring seamless collaboration and successful outcomes.
- Drive the GenAI initiative, overseeing project planning and execution, resulting in the advancement of cutting-edge technology solutions.

University of Padova,  
IAS-lab  
Sep 2022 - Sep 2023

**Robotic Research Assistant**

Propose and implement autolabeling framework to label people in panoramic video.

- Developed and deployed advanced Camera and LiDAR Calibration and Computer Vision models, contributing to project success.
- Submitted the research findings in the respected "2024 IEEE International Conference on Robotics and Automation (ICRA 2024)".

Cineca, PRACE  
Summer Of HPC  
Jun 2021 - Sep 2021

### **Machine Learning, Intern**

Utilized automatically annotated data and employed deep learning models, specifically LSTM autoencoders, for real-time anomaly detection and prediction in HPC systems.

Kavosh  
Jun 2017 - Sep 2019

### **Machine Learning**

2 years in development and deployment of machine learning algorithms.

- Engineered and executed advanced Natural Language Processing (NLP) and Computer Vision models, significantly contributing to the success of key projects.
- Led a team in the research and development of cutting-edge machine learning algorithms, resulting in improved model accuracy by 20%.

University of Tehran  
Feb 2018 - Jun 2018

### **Teacher Assistant**

- Taught R programming, bioinformatic packages, and algorithms to 16 IT master students.
- Designed and graded projects, ensuring practical application of the learned concepts.

University of Tehran  
Sep 2016 - Sep 2017

### **Research Assistant**

- Developed CAMIRADA, a Cancer microRNA Association Discovery Algorithm, achieving a high AUC of 0.95 in identifying breast cancer-related microRNAs.
- Applied advanced computational frameworks, incorporating protein-protein interaction networks and co-expression networks, to assess microRNA-disease associations, providing a valuable contribution to cancer research.

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## **PROJECTS**

### **3D reconstruction:**

Implemented 3D reconstruction using Structure from Motion (SfM) in C++, integrating SIFT algorithm, Bundle Adjustment, and Ceres Solver for precise scene reconstruction.

### **3D Point Cloud Segmentation with PointNet:**

Developed a 3D point cloud segmentation that achieved an accuracy of 96% in model predictions.

### **Bosch Future Mobility Challenge (2022):**

Demonstrated mid-level success in autonomous driving, including line detection, curve navigation, traffic sign and pedestrian detection, and precise steering; withdrew due to personal reasons.

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## **SKILLS**

- **Programming:** Python, C++, Matlab, R
- **Frameworks:** Tensorflow, PyTorch, ROS/ROS2, OpenCV, Open3D
- **Computer Vision:** CNN, Object Detection, Object Tracking, Segmentation, 3D Vision, Calibration, SLAM
- **Tools:** Docker, GIT, Linux

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## **HONORS**

- Top 7% among more than 450,000 participants in the Iranian nationwide university entrance examination (B.Sc. Program) in the whole country (2010).
- Rank 189 among more than 30,000 participants in the Iranian nationwide university entrance examination (M.Sc. Program) in the whole country (2013).

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## **CERTIFICATES**

- Self Driving and ROS 2 - Learn by Doing! Odometry & Control, Udemy
- Robotics and ROS - Learn by Doing! Manipulators, Udemy
- Advanced Computer Vision with TensorFlow, Coursera
- Deep Learning Specialization, Coursera