

# Mahmood Karimian *Curriculum Vitae*

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## Research Interests

### Machine Vision

Image Processing, Video Processing  
Video Classification, Image Retrieval

### Machine Learning

Ontology Learning  
Semi-supervised Learning  
Text Mining, Natural Language Understanding

## Education

Ph.D. Student in Computer Engineering (Artificial Intelligence), Sharif University of Technology (2015 - now)

❖ Advisor: Prof. Mahdieh Soleymani

M.Sc. in Computer Engineering (Artificial Intelligence), Sharif University of Technology (2009 - 2012)

❖ GPA: 17.67/20

❖ **Relevant courses:** Stochastic Processes (19/20), Signal Processing (19.7/20), Statistical Pattern Recognition (17/20), Neural Networks & Fuzzy Systems (19.5/20), Machine Learning (19/20), Video Processing (18.5/20 – 1st Rank)

❖ **M.Sc. Thesis:** Video Classification Using Semi-supervised Learning Methods

❖ Advisor: Prof. Shohreh Kasaei

B.Sc. in Computer Engineering (Software Engineering), Ferdowsi University of Mashhad (2005 - 2009)

❖ GPA: 17.54/20

❖ **Relevant courses:** Differential Equations (19/20), General Mathematics (18.75/20), Engineering Math (20/20), Discrete Mathematics (20/20), Theory of Machines and Languages (20/20), Technical and Scientific Presentation (20/20), Algorithm Design (20/20), Software Engineering (19.5/20), Operating Systems (19/20)

❖ **B.Sc. Thesis:** Classification Rule Discovery With Particle Swarm Optimization

❖ Advisor: Prof. Mahdi Abadi

Diploma in Mathematics and Physics, Imam Reza High School, Mashhad (2001 - 2005)

❖ GPA: 19.5/20

## Publications

### Journal Papers

- ❖ M. Tavassolipour, **M. Karimian**, S. Kasaei, "Event Detection and Summarization in Soccer Video Using Bayesian Network and Copula", *IEEE Transaction on Circuits and Systems for Video Technology*, January 2014.
- ❖ **M. Karimian**, M. Tavassolipour, S. Kasaei, "A Semi-supervised Method for Multimodal Classification of Consumer Videos", *International Journal of Information & Communication Technology Research (IJICTR)*, January 2013.

### Conference Papers

- ❖ M. Firouzi, **M. Karimian**, M. Soleymani, "NMF-based Label Space Factorization for Multi-Label Classification", submitted to Pacific Asia Knowledge Discovery and Data Mining Conference (PAKDD 2017).
- ❖ R. Salarifard, M. Hosseini, **M. Karimian**, S. Kasaei, "A Robust SIFT-Based Descriptor for Video Classification", *ICMV (International Conference on Machine Vision)*, July 2014.
- ❖ **M. Karimian**, M. Tavassolipour, and S. Kasaei, "Exploiting Multiview Properties in Semi-Supervised Video Classification". In *International Symposium on Telecommunications, IST12* (IEEE Index), pages 837-842, Tehran, Iran, November 2012.

### Books

- ❖ **M. Karimian**, "Data Fusion, Algorithms and Applications", Supported by National Foundation of Elites, 245 pages, published at May 2014.

## Technical Reports

- ❖ M. Karimian, "A survey on Ensemble Learning methods", Supported by National Foundation of Elites, 110 pages, published at October 2013.

## Teaching Experiences

### Teaching Assistant

- ❖ **Advanced Programming (C++ - Object Oriented)**
  - Ferdowsi University of Mashhad, Prof. M. Kamyar
  - Spring 2007
- ❖ **Theory of Machines and Languages**
  - Ferdowsi University of Mashhad, Prof. A. Savadi
  - Spring 2008, Fall 2008
- ❖ **Technical and Scientific Presentation**
  - Sharif University of Technology, Prof. S. Kasaei
  - Spring 2011
- ❖ **Data Structures**
  - Ferdowsi University of Mashhad, Prof. M. Alikhanzadeh
  - Fall 2007
- ❖ **Machine Learning**
  - Sharif University of Technology, Prof. H. Beigy
  - Fall 2010, Fall 2013
- ❖ **Neural Networks & Fuzzy Systems**
  - Sharif University of Technology, Prof. M. Jalili
  - Spring 2011

### Tutor

- ❖ **Machine Learning, Pattern Recognition**
  - 2012, 2013, 2014
- ❖ **C++, Video Processing**
  - 2007, 2008, 2013
- ❖ **Image Processing, Matlab**
  - 2013, 2014, 2015

## Honors and Awards

- ❖ **First Rank**, National Scientific Olympiad in Computer Engineering,
  - Semi-Final, spring 2009, Mashhad.
- ❖ **12<sup>th</sup> Rank**, National Scientific Olympiad in Computer Engineering,
  - Final, summer 2009, Tehran.
- ❖ **Awarded Fellowship of Exceptional Talents of Sharif University of Technology**,
  - For M.Sc. Program, Sep. 2009-2011.
- ❖ **Top 0.5%**, National Graduate Entrance Exam in Computer Engineering, Artificial Intelligence
  - Number of examinees: 17,045; Administrated by NOET
  - Tehran, Iran, Spring 2009.
- ❖ **First Rank**, in cumulative GPA among more than 40 B.Sc. students of the department, Software Engineering,
  - Class of 2005, Ferdowsi University of Mashhad, 2009.
- ❖ **First Rank**, in cumulative GPA among more than 70 B.Sc. students of the department,
  - Class of 2005, Ferdowsi University of Mashhad, 2009.
- ❖ **Top 0.5%**, Iran's Nationwide University Entrance Exam for Engineering and Applied Mathematics,
  - Number of examinees: about 500,000; Administrated by NOET
  - Tehran, Iran, Summer 2005.
- ❖ **19<sup>th</sup> Rank**, ACM-ICPC Asia Tehran Regional Contest, Final.
  - Sharif University of Technology Tehran, Iran, 2010.
  - As a member of the team.

## Professional Experiences

### Dideo (2015-now)

- ❖ [www.dideo.ir](http://www.dideo.ir)
- ❖ Co-founder
- ❖ Dideo is the video search and watch service
- ❖ Developing a video search engine and video content detection service with my team

### Text Mining (2014-2015)

- ❖ Designing a Natural Language Understanding system
- ❖ Working as the head of the R&D team (designing and implementing all of the learning parts)

### Data Fusion (2012-2014)

- ❖ Designing a simple Data Fusion system for a multi-sensor tracking problem

### Pattern Recognition (2010-Now)

- ❖ Designing a system to make distinction between "real disgusting sense" and "fake disgusting sense" using thermal and normal videos.
- ❖ Designing a system for Background Subtraction in Dynamic Scenes.
- ❖ Working on a Bioinformatics problem. We are using Image Processing and Pattern Recognition Techniques to classify plants using their leaf images.

# Technical Skills

## Programming Languages and Tools

- C/C++, C#, Java, Matlab, SQL
- *Familiar With:* Python, VB, Prolog

## Web Programming

- HTML, CSS, JQuery, AngularJS
- PHP, Laravel

## Machine Learning Softwares

- Weka, Rapid Miner

## Operating System

- ❖ Windows and Linux based systems

## Databases

- ❖ Microsoft SQL server 2005 and 2008, MySQL
- ❖ NoSQL: MongoDB

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