Mahmood Karimian *Curriculum Vitae*

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Research Interests

Machine Learning
Data Mining, Pattern Recognition
Graphical Models, Bayesian Networks

Machine Vision
Image Processing, Video Processing

Education

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
- ❖ 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.

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

Technical Report
- ❖ **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

Honors and Awards

- *First Rank*, National Scientific Olympiad in Computer Engineering,
  - Semi-Final, spring 2009, Mashhad.
- *12th 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.
- 19th Rank, ACM-ICPC Asia Tehran Regional Contest, Final.
  - Sharif University of Technology Tehran, Iran, 2010.
  - As a member of the team.

Professional Experiences

Data Fusion

- Research on AI algorithms in Sensor and Data Fusion (Algorithms – Levels – Architectures)
- Design a simple Data Fusion system for a multi-sensor tracking problem

Pattern Recognition and Data Mining

- Design a system to make distinction between "real disgusting sense" and "fake disgusting sense" using thermal and normal videos.
- Texture image classification with Support Vector Machines, Work on feature extraction and feature fusion.
- Design a system for Background Subtraction in Dynamic Scenes.
- Implementing RotBoost Algorithm for data classification.
- 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, PHP, XML, JQuery, Java Script

Machine Learning Softwares

- Weka, Rapid Miner

Operating System

- Windows and Linux based systems

Databases

- Microsoft SQL server 2005 and 2008, MySQL

Last Update: October 28, 2014