Rabeeh Karimi Mahabadi

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Education

Sept 2013 - present
MSc in Computer Science, **ETH Zurich**, Switzerland
with courses on: Convex Optimization, Machine learning,
High performance computing(OpenMP, MPI), Algorithm lab,
, Computer vision, Probabilistic AI, Computational Intelligence Lab,
Shape Modeling and geometry processing, physically based simulations,...
GPA: 5.54/6

Sep 2008 - Aug 2012
BSc in Electrical Engineering, Amirkabir University of Technology, Iran
Ranked 1st according to GPA among all B.Sc. students
GPA: 17.77/20

Publication

- A. Kyrillidis, R. Karimi Mahabadi, Q. Tran-Dinh, V. Cevher, " Scalable sparse covariance estimation via self-concordance", AAAI 2014.
- A. Alamdari, R. Karimi Mahabadi, A. Doosti, Z. Rajabi, "Advanced MATLAB for Electrical Engineers: Neural Networks, Image processing, Genetic Algorithms, Fuzzy logic, and Digital Communication", Negarandeye Danesh publisher, ISBN:978-600-6190-11-2.
- A. Alamdari, R. Karimi Mahabadi,"Simulink for Engineers", Negarandeye Danesh publisher, ISBN:978-600-6190-04-4.
- R. Karimi Mahabadi, S. Shiry Ghidary, "A Novel Adaptive Geometric Mapping for Data Classification".

Work Experience

Feb 2013 - Present
Computer vision and Geometry Group, ETH Zurich, Switzerland
Research Assistant
I am working on 3D Scene Reconstruction and Segmentation.
Languages used: C++
Reference to:
- **Marc Pollefeys**, Full Professor, ETH Zurich, marc.pollefeys@inf.ethz.ch,
- **Christian Häne**, PhD candidate, ETH Zurich, chaene@inf.ethz.ch,

June 2013 - July 2013
Information and inference systems Group, EPFL, Switzerland
Intern
We proposed and implemented a new scheme for sparse covariance estimation. The new optimization framework has convergence guarantees, and also shows excellent practical behavior both in terms of reconstruction recovery and complexity.
Languages used: MATLAB
Reference to:
- **Volkan Cevher**, Assistant Professor, EPFL, volkan.cevher@epfl.ch,
- **Anastasios Kyrillidis**, PhD candidate, EPFL, anastasios.kyrillidis@epfl.ch,
- **Quoc Tran Dinh**, Posdoc, EPFL, quoc.trandinh@epfl.ch

August 2013 - Sep 2013
Information and inference systems Group, EPFL, Switzerland
Intern
Proposing a new scheme for phase retrieval problem. We demonstrated that phase of a signal can be recovered from magnitude of just a few diffracted patterns by solving a convex optimization problem inspired by the recent literature on Composite Self-Concordant Minimization.
Languages used: MATLAB

Reference to:

- **Volkan Cevher**, Assistant Professor, EPFL, volkan.cevher@epfl.ch,
- **Anastasios Kyrillidis**, PhD candidate, EPFL, anastasios.kyrillidis@epfl.ch

Sep 2012 - Jan 2013 — **Multimedia signal processing Lab**, AUT, Iran.
Research Assistant
Introducing and implementing a new sparse Bayesian machine-learning algorithm for embedded feature selection in Relevance Vector Machines Regression.
Languages used: MATLAB
Reference to:

- **Hamid Sheikhzade Nadjar**, Assistant Professor, AUT, Iran hsheikh@aut.ac.ir
- **Yalda Mohsenzadeh**, Postdoctoral Fellow, York, Canada myalda@yorku.ca

Jan 2013 - Aug 2013 — **School of Cognitive sciences at IPM**, Iran
Research Assistant
I proposed a new model for pose-invariant face recognition based on HMAX and the idea of Mixture of Experts. The obtained results were promising and showed 12 percent improvement on PIE dataset.
Languages used: C++, MATLAB
Reference to:

- **Reza Ebrahimpour**, Assistant Professor, Shahid Rajaee University, Iran ebrahimpour@ipm.ir

Mar 2012 - Sep 2012 — **Bachelor Thesis Project - Object Category Recognition**
I designed and developed a new method for object category recognition. The presented results showed acceptable improvement on Caltech101 dataset.
Languages used: MATLAB
Reference to:

- **Saeed Shiry Ghidary**, Assistant Professor, AUT, Iran shiry@aut.ac.ir

Sep 2010 - Sep 2011 — **Machine learning Laboratory, Amirkabir University**, Iran
Research Assistant
I introduced a new kernel function which can map multi-class data into feature space such that it could make convex hulls of examples of different classes disjoint. Moreover, I have proposed a new multi-class classifier based on this idea. The empirical evaluation showed the effectiveness of the suggested algorithm.
Languages used: C++, MATLAB
Reference to:

- **Saeed Shiry Ghidary**, Assistant Professor, AUT, Iran shiry@aut.ac.ir

Sep 2011 - March 2012 — **Amirkabir University of Technology**, Tehran, Iran
Teaching Assistant-Programming and Numerical Analysis with C++
Reference to:

- **Ali Pourmohammad**, Assistant Professor, AUT, Iran pourmohammad@aut.ac.ir

Computer Skills

- C++, OpenMP, OpenGL, MPI, MATLAB, CSS, html

Languages

- Persian: mother-tongue
- English: fluent(TOEFL IBT Score: 100)
- German: beginner(A2.2)