

# Aidin Hassanzadeh

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## Summary

Machine Learning Expert focused on Data Science applications ranging from sensory imaging to business data processes. For more than five years, I have been actively working with the state of art machine learning algorithms, deep neural networks, dealing with the complexities in large scale high dimensional data. I am deeply passionate about mathematics, technology and experienced with unsupervised, supervised, deep learning and parallel computing. With acquired skills, I am able to leverage a broad range of applied math and statistics with visualization and exploratory data analysis.

## Current position

4th year *PhD* Candidate, Machine Vision and Pattern Recognition laboratory (MVPR), School of Engineering Science, Lappeenranta University of Technology, Finland  
Research Scholar, Laboratory for Image Video Engineering (LIVE), University of Texas at Austin, USA  
*Expected Graduation: Jul.2018*

## Research Interests

Machine Learning, Deep Neural Networks, Unsupervised Classification, Big Data, NLP, Remote Sensing, Hyperspectral Image Analysis

## Education

2018	The Data Analysis and Visualization Boot Camp, University of Texas at Austin
2014	MSC Computer Science (Computer Science), Örebro University, Sweden (Grade A/A)
2013	VISITING STUDENT in Algorithms and Machine Learning, University of Helsinki, Finland
2002	BSC in Electrical Engineering, Tabriz University, Iran

## Research Experience

2014	<i>M.S. Thesis</i> , Mobile Robot Wind Mapping, Örebro University, Sweden
2002	<i>B.S. Thesis</i> , Digital Subscriber Line, Tabriz University, Iran
1999	<i>B.S. Project</i> , Robotics Competition, Tabriz University, Iran

## Publications

2017	Hassanzadeh, Aidin and Kaarna, Arto and Kauranne, Tuomo, "Sequential Spectral Clustering of Hyperspectral Remote Sensing Image over Bipartite Graph", Journal of Applied Soft Computing, <i>ASC</i>
2017	Hassanzadeh, Aidin and Kaarna, Arto and Kauranne, Tuomo, "Unsupervised Multi-Manifold Classification of Hyperspectral Remote Sensing Images with Contractive Autoencoder", Scandinavian Conference on Image Analysis 2017, <i>SCIA 2017</i>

- 2016 Hassanzadeh, Aidin and Kaarna, Arto and Kauranne, Tuomo, "Outlier Robust Geodesic K-means Algorithm for High Dimensional Data", Structural, Syntactic, and Statistical Pattern Recognition: Joint IAPR International Workshop, S+SSPR 2016, Mérida, Mexico, November 29 - December 2, 2016, Proceedings, *S-SSPR 2016*
- 2016 Hassanzadeh, Aidin and Kauranne, Tuomo and Kaarna, Arto, A multi-manifold clustering algorithm for hyperspectral remote sensing imagery", 2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), *IGARSS 2016*
- 2014 Hassanzadeh, Aidin, Mobile Robot Wind Mapping", Master thesis *Örebro University*

## Experience History

- 2014-18 PhD Studies, Lappeenranta University of Technology
- 2012-14 Master Studies, Örebro University
- 2010-12 Control Engineer, DSKI Joint Venture
- 2009-10 Master Studies, Örebro University
- 2007-09 Instrument/Control Engineer, Daelim Ind. Co.
- 2002-07 Instrument/Control Engineer, Elmatco Eng. Co.

## Teaching

- 2017 Teacher Assistant, Computer Vision, Lappeenranta University of Technology, Finland
- 2016 Teacher Assistant, Advanced Data Analysis and Machine Learning, Lappeenranta University of Technology, Finland
- 2016 Master thesis supervision, Lappeenranta University of Technology, Finland

## Awards

- 2017 Research Visit Grant, Lappeenranta Teknillisen Yliopiston Tukisäätiö
- 2015 Best Poster Presentation in Scientific Session (LUT DS Conference)
- 2015 Graduate School Grant, Lappeenranta University of Technology
- 2014 MSc Graduation with Distinction

## Skills

Programming: Python, C, C++, Matlab, R, Scala, JavaScript, VBA  
 Frameworks: Theano, TensorFlow, Keras, SciKit-Learn, OpenCV, Pillow, NLTK, TextBlob, OpenNI  
 Data Analytics: MySQL, MongoDB, Hadoop, Social Media Mining, Excel  
 Visualization/Reporting: Bootstrap, Dashboarding, Pandas, Matplotlib, Searborn, ArcGIS, Folium, Tableau, HTML/CSS/JS, Excel  
 APIs: Google, AWS (EC2, SageMaker, Rekognition and Product Advertising API), Twitter, Census, Yelp API, Open Weather, Zillow, Great Schools, Quandl. Mics: Bash scripting, Vim, Emacs, Latex, Git, SVN, Conda, Docker, MS Office

## References

Available upon request.