Mohammad K. Ebrahimpour

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Research Interests

Deep Learning	Computer Vision	Convolutional Neural Network	Generative Models
Statistical Pattern Recognition	Machine learning	Feature Selection	Neural Networks
Object Detection	Dimensionality Reduction	Ensemble Learning	Spiking Neural Networks

Education

- **University of California** — Merced, CA
  PhD of Electrical Engineering and Computer Science — *Aug. 2016 – Exp: May 2020*
- **Shahid Bahonar University of Kerman** — Kerman, Iran
  MSc of Artificial Intelligence — *Sep. 2013 – Dec. 2015*
- **Shahid Bahonar University of Kerman** — Kerman, Iran
  BSc of Computer Engineering — *Sep. 2008 – Dec. 2013*

Internships

- **Accenture Labs** — San Francisco,CA
  Research Scientist — *Aug 2019 – Now*
- **Ancestry Inc.** — Lehi,UT
  Computer Vision Scientist — *May 2018 – Aug 2018*

Publications

- **Auditory Object Recognition**
  - M.K.Ebrahimpour, T.M.Shea, A.Danielescu,D.C.Noelle,C.Kello,End-to-End Auditory Object Recognition via Inception Nucleus,In ICASSP 2020
  - M.K.Ebrahimpour, T.M.Shea, A.Danielescu,D.C.Noelle,C.Kello,End-to-End Auditory Object Recognition on Neuromorpic hardware chip,In Tiny ML 2020
- **Object Detection**
  - M.K. Ebrahimpour, J.B. Falandays, S. Spevack, M.H,Yang, D.C. Noelle,WW-Nets: Dual Neural Networks for Object Detection, Submitted In AAAI , 2020.
  - M.K. Ebrahimpour, J.B. Falandays, S. Spevack, D.C. Noelle,Do Humans Look Where Deep Convolutional Neural Networks "Attend"?, In CogSci 2019.
  - M.K. Ebrahimpour, D.C. Noelle,Fast Object Localization via Sensitivity Analysis, In ISVC 2019.
  - M.K. Ebrahimpour, J.B. Falandays, S. Spevack, D.C. Noelle,Do Humans Look Where Deep Convolutional Neural Networks "Attend"?, In ISVC 2019.
  - J.Li,M.K. Ebrahimpour, Y.Y.Yu,Image captioning with weakly-supervised attention penalty In CVPR 2019.
  - M.K. Ebrahimpour, J.Li, M.H,Yang, Y.Y.Yu, J.Reese, A,Moghtaderi, D.C. Noelle,Ventral-Dorsal Networks: Object Detection via Selective Attention, In WACV 2019.
  - M.K. Ebrahimpour, D.C. Noelle,Weakly Supervised Object Localization via Sensitivity Analysis, Deep Vision Workshop In CVPR 2018.
- **Optimization**
  - M.K. Ebrahimpour, H.Nezamabadi-pour, M.Eftekhari, CCFS: A Cooperation Coevolution Techniques for Large Scale Feature Selection on Microarray Datasets, Computational Biology and Chemistry , (2018).

- **Dimensionality Reduction**
  - M. K. Ebrahimpour, H. Mirvaziri, and V. Sattari-Naeini, "Improving breast cancer classification by dimensional reduction on mammograms," Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization, pp. 1-11, 2017.
- **Feature Selection**
  - M.K. Ebrahimpour, M. Eftekhari, MCMR: Maximum Consistency Minimum Redundancy for Microarray High-Dimensional Feature Selection, pattern recognition, (under review) (2017).
  - M.K. Ebrahimpour, M. Eftekhari, Occam's razor in dimension reduction: using reduced row Echelon form for finding linear independent features for high dimensional feature selection, Engineering Applications of Artificial Intelligence, 2017.
  - M.K. Ebrahimpour, M. Eftekhari, Ensemble of Feature Subset Selection Methods: A Hesitant Fuzzy Set Approach, Applied Soft Computing (2017).
  - M.K.Ebrahimpour, M.Eftekari, Feature Subset selection using Information Energy and correlation coefficients of hesitant fuzzy sets, International Conference on Information and Knowledge Technology (IKT), 2015 7th International Conference on, (IEEE2015).
  - · M.K. Ebrahimpour, M. Eftekhari, Proposing a novel feature selection algorithm based on Hesitant Fuzzy Sets and correlation concepts, Artificial Intelligence and Signal Processing (AISP), 2015 International Symposium on, (IEEE2015), pp. 41-46.
- **Ensemble Learning**
  - · N.A. Abolkarlou, A.A. Niknafs, M.K. Ebrahimpour, Ensemble Imbalanced Classification: Using data preprocessing, clustering algorithm and genetic algorithm, Computer and Knowledge Engineering (ICCKE), 2014 4th International eConference on, (IEEE2014).
  - N.afshari, M.K.Ebrahimpour, A.A. Niknafs, Improving the Ensemble classifiers based on clustering approaches and genetic algorithm, International conference on information Technology and Computer. (2014).Tehran, Iran.
- **Ontology Mapping**
  - I.Badrooh, M.K. Ebrahimpour, R.Beheshtinezhad, Utilizing an Optimization Method for Map Extraction on Ontology Alignments, Electerical Enginieering (ICEE), 18th Iranian Conference, (2010), In conference proceeding, In persian.

Teaching experiences

- **UC Merced** — Merced, CA
  TA-CSE 185 : Introduction to Computer Vision — *Spring 2019*
- **UC Merced** — Merced, CA
  TA-CSE 175 : Introduction to Artificial Intelligence — *Fall 2018*
- **UC Merced** — Merced, CA
  TA-CSE 030 : Data Structures and Algorithms — *Fall 2017*
- **UC Merced** — Merced, CA
  TA CSE100: Algorithms Design and Analysis — *Fall 2016*
- **SBUK** — Kerman, Iran
  Lecturer: Mathematical Engineering — *Spring 2016*

Talks

- **Guest Speaker** — CA, USA
  Guest Speaker at Introduction to Artificial Intelligence — *Fall 2018*
- **Guest Speaker** — Kerman, Iran
  Guest Speaker at statistical pattern recognition course — *Fall 2017*

Services

- **Reviewer**
  Reviewer in Computers in Biology and Medicine journal *Fall 2016*
- **Reviewer**
  International journal of Bioinformatics and applications *Fall 2016*
- **Lecturer** Kerman, Iran
  Lecturer: Mathematical Engineering *Spring 2016*
- **Senior member of OCR team** Kerman, Iran
  Senior member of the OCR team lead by prof.Nezamabadi–pour *Sep 2013 – Dec 2015*

Programming skills

- **Tiny Machine learning:** Intel Loihi hardware
- **Programming languages:** **Python,Julia**,C++,C#
- **Mathematical Analysis:** Matlab and SIMULINK
- **Selected libraries in python:** **Keras, Tensorflow, scikit-learn**, numpy, scipy
- **Machine learning tools:** weka, KEEL
- **Documentation:** Latex

Honor and awards

- Awarded Dr. Donald and Effie Godbold Fellowship Fall 2019
- Awarded Bobcat Fellowship in Summer 2019
- Second ranked in the M.Sc. program and selected as the Exceptional Talents of National Universities in Iran
- First ranked in the B.Sc. program and selected as the Exceptional Talents of National Universities in Iran.