MEHDI REZAEE

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Google Scholar

Homepage

INTERESTS

Machine Learning, Natural Language Processing, Variational Inference, Bayesian Networks

EDUCATION

Doctor of Philosophy in Electrical Engineering 2017-present
University of Maryland Baltimore County.
GPA: 3.75/4

Master of Science in Electrical Engineering 2014-2017
Sharif University of Technology (Tehran, Iran)
Thesis: Multi-Camera Action Recognition with Manifold Learning.

Bachelor of Science in Electrical Engineering 2010-2014
Isfahan University of Technology (Tehran, Iran)

PUBLICATIONS

Discriminative and Generative Transformers For Situation Entity Classification. Under Review
Mehdi Rezaee, Kasra Darvish, Gaoussou Youssouf Kebe and Francis Ferraro. *First Author*
We compare various generative and discriminative models for the situation entity classification and cover both low-label and plentiful annotated training regimes. We show that Transformers with latent variables can outperform the SOTA.

Event Representation with Sequential, Semi-Supervised Discrete Variables. NAACL 2021
Mehdi Rezaee and Francis Ferraro. *First Author*
The semi-supervision term is usually used in deterministic models but we use it for discrete latent variables with soft information injection without affecting the gradient flow. Our model not only outperforms multiple baselines and the SOTA in narrative script induction, but also converges more quickly.

A Discrete Variational Recurrent Topic Model without the Reparametrization Trick. NeurIPS 2020
Mehdi Rezaee and Francis Ferraro. *First Author*
We provide both experimental and analytical discussion about word-level topic modeling in conjunction with RNNs without marginalizing out the topics. We show improved perplexity and document understanding across multiple corpora.

A Survey on Compressive Sensing: Classical Results and Recent Advancements. JMM 2020
Seyedahmad Mousavi, Mehdi Rezaee and Ramin Ayanzadeh. *Second Author*
We overview classical tools and algorithms in compressive sensing and compare their performance in recovering text representation from their embeddings.

SKILLS AND INTERESTS

Programming Languages	Python, Matlab, C++
Tools, Libraries	PyTorch, Tensorflow
Operation Systems	Mac, Ubuntu

TALKS & PANELS

Annual Mid-Atlantic Student Colloquium on Speech, Language and Learning March 2020

- University of Maryland, College Park

COMPUTER VISION (OLD) PROJECTS

Moving Object Tracking with Extended Kalman Filtering Spring 2017

- Used **Matlab** to predict the 2D position of an object moving on a nonlinear path.
- Under supervision of Prof. Seung-Jun Kim, UMBC

3D Human Activity Reconstruction With Marker. Spring 2015

- Used **C++**, **OpenCV** and **OpenGL** to map human actions onto a 3D avatar.
- Under supervision of Dr. K. Aghajan, Sharif University of Technology

Head Pose Estimation From A Single Camera Spring 2015

- Used **C++** and **OpenCV** to estimate the 3D head pose which lets you try 2D eyeglasses.
- Under supervision of Dr. K. Aghajan, Sharif University of Technology

Simulation of Intensity of Spontaneous Facial Action by Linear Regression Spring 2015

- Used **Matlab** to classify facial actions by using linear regression.
- Under supervision of Dr. Mohammadzade, Sharif University of Technology

Simulation of Kernel Discriminant Learning for Face Recognition. Fall 2015

- Used **Matlab** to recognize face by using high dimensional kernels.
- Under supervision of Dr. Mohammadzade, Sharif University of Technology

PUBLIC SERVICE

Conference Reviewing

International Joint Conferences on Artificial Intelligence (IJCAI-PRICAI) 2019
Empirical Methods in Natural Language Processing (EMNLP) 2019

Journal Reviewing

Elsevier Signal Processing 2020

HONOURS AND AWARDS

Ranked 6th of the country among 40 teams in Sharif AI Challenge 2016
Semifinalist of SHEIKH BAHAI Technopreneurship Festival 2016
Ranked 24th of the country, in the M.Sc. Entrance Exam 2014

TEACHING EXPERIENCE

CMPE 306 (Introductory Circuit Theory) Spring and Fall 2017

- Taught by Dr. Yan and Dr. Carter (UMBC)

Signals and Systems Spring 2016

- Taught by Dr. Babaie-Zadeh (Sharif University of Technology)

Computer Vision in Multi-Camera Networks Spring 2015

- Taught by Dr. K. Aghajan (Sharif University of Technology)

Adaptive Filters Fall 2016

- Taught by Dr. Babaie-Zadeh (Sharif University of Technology)

RELEVANT GRADUATE COURSEWORK

UMBC:

CMSC 673 - Introduction To Natural Language Processing

ENEE 620 - Probability and Random Processes

ENEE 605 - Applied Linear Algebra

ENEE 621 - Detection and Estimation Theory

ENEE 718 - Topics in Signal Processing (Machine Learning)

Sharif University of Technology:

Statistical Learning

Computer Vision

Digital Image Processing

Adaptive Filters