Pouya Pezeshkpour

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Education:

University of California, Irvine.
- PhD student in Electrical Engineering, Machine Learning. Fall 2015 - present

Sharif University of Technology, Tehran, Iran.
GPA: 3.90/4.
- B.Sc. in Electrical Engineering, Communications. Fall 2010 – Spring 2015
- Minor in Pure Mathematics.

Internship:

Siri Knowledge Graph group at Apple.
- *Research Internship* Summer 2020
  Supervisor: Charles Srisuwananukorn.

Allen Institute for AI.
- *Research Internship* Summer 2019
  Supervisor: Prof. Doug Downey.

Fujitsu Laboratories of America.
- *Research Internship* Summer 2018
  Supervisor: Ramya Srinivasan.

The Chinese University of Hong Kong, Hong Kong.
- Internship in the Department of Information Engineering. Summer 2014
  Supervisor: Prof. C. Nair.

Honors and Awards:

- AWS research program credit award 2019-2021.
- Henry Samueli Fellowship, University of California, Irvine, 2015-2016.
- Awarded an internship from Department of Information Engineering of Chinese university of Hong Kong, Jul 2014 - September 2014.
- Member of "Society for Exceptional Talents" at Sharif University of Technology.

Interest:

- Machine Learning
- Natural Language Processing
- Information Theory
- Graph Theory
- Deep Learning
- Convex Optimization
- Game Theory

Graduate Courses:

- Machine Learning
- Natural Language Processing
- Random Processes
- Probabilistic Learning
- Information Theory
- Convex Optimization

Research Experiences:

- *Research assistant at University of California, Irvine.*
  Adviser: Professor Sameer Singh
  Subject: “Knowledge Graph Embedding”, “Interpretability”, “NLP” and “Matrix Factorization”.
- *Intern Researcher at Allen Institute for AI*
  Advisor: Professor Doug Downey
  Subject: “Question Generation and Targeting for Assisted Flashcard Study of Scientific Papers”
- *Intern Researcher at Fujitsu Laboratories of America*
  Advisor: Ajay Chander and Ramya Srinivasan
  Subject: “Generating User-Friendly Explanations”
- *Research assistant at University of California, Irvine.*
  Adviser: Professor Syed Ali Jafar
  Subject: “Treating Interference as Noise” and “Private Information retrieval and its connection to Locally Decodable Codes”.
- *Research assistant at advanced communication research institute at Sharif University of technology.*
  Adviser: Professor Mohammad Reza Aref
  Subject: “3-User Interference Alignment with Imperfect CSI”.
- *Research assistant at Chinese University of Hong Kong.*
  Adviser: Professor Chandra Nair
  Subject: “Hypercontractivity Calculations for the Binary Symmetric Case”.
- *Research assistant at advanced communication research institute at Sharif University of technology.*
  Adviser: Professor Hamid Behroozi
  Subject: “Tradeoff between Source and State Distortions over a Gaussian Channel”.
- *Research assistant at digital communication research institute at Sharif University of Technology.*
  Adviser: Professor Mahmoud Tabandeh
  Subject: “Error Correcting and Detecting in Transferred Data”.
- *Experienced in constructing path finder and remote controller robots.*

Publications:

- **P. Pezeshkpour,** Y. Tian, S. Singh, "Revisiting Evaluation of Knowledge Base Completion Models". Automated Knowledge Base Construction (AKBC 2020).
- **P. Pezeshkpour,** J. Bragg, S. Singh, D. Weld, D. Downey "Question Generation and Targeting for Assisted Flashcard Study of Scientific Papers". To be submitted to UMAP 2020.
- **P. Pezeshkpour,** Y. Tian, S. Singh, "Integrating Local Structure into Knowledge Graph Embeddings". SoCal NLP Symposium 2019.
- **P. Pezeshkpour**, Y. Tian and S. Singh “*Investigating Robustness and Interpretability of Link Prediction via Adversarial Attacks*”, 2019 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL 2019).
- **P. Pezeshkpour**, R. Srinivasan and A. Chander “*Generating User-friendly Explanations for Loan Denials using GANs*”, FEAP-AI4Fin, NIPS 2018.
- **P. Pezeshkpour**, L. Chen and S. Singh “*Embedding Multimodal Relational Data for Knowledge Base Completion*”, Conference on Empirical Methods in Natural Language Processing, EMNLP 2018.
- **P. Pezeshkpour**, C. Guestrin and S. Singh “*Compact Factorization of Matrices Using Generalized Round-Rank*”, Southern California Machine Learning Symposium 2017.

- **P. Pezeshkpour** and H. Behroozi, "*Optimal Tradeoff between Source and State Distortions over a Gaussian Channel Using Single and Hybrid Digital Analog Codes*", in Proceedings of the IEEE 7th International Symposium on Telecommunications, IST 2014.
- **P. Pezeshkpour** and M. Tabandeh "*Data Bits in Karnaugh Map & Increasing Map Capability in Error Correcting*", arXiv.
- **P. Pezeshkpour** and C. Nair, "*Hypercontractivity Calculations for the Binary Symmetric Case*", to be submitted in IEEE Transaction on Information Theory.
- **P. Pezeshkpour**, "*An Optimal Linear Coding for Index Coding Problem*", arXiv.

Professional Experience:

- Co-organized Knowledge Bases and Multiple Modalities workshop at AKBC 2019 and AKBC 2020.
- 2020: Reviewer at NeurIPS, AAAI, ICLR, EMNLP
- 2019: Reviewer at NeurIPS, EMNLP, ICLR
- 2018: Reviewer at ECML-PKDD, EMNLP
- Volunteer at NIPS 2018

Patent:

- Pouya Pezeshkpour, Ramya Malursrinivasan, Ajay Chander, "USER-FRIENDLY EXPLANATION PRODUCTION USING GENERATIVE ADVERSARIAL NETWORKS". US Patent Number 20200125640, 2020.
- Pouya Pezeshkpour, Ramya Malursrinivasan, Ajey Chander, "EXPLANATIONS GENERATION WITH DIFFERENT COGNITIVE VALUES USING GENERATIVE ADVERSARIAL NETWORKS". US Patent Number 20200125975, 2020.

Teaching Experience:

- Teaching Assistant for "Machine Learning & Data Mining" course by prof. Singh.
- Teaching Assistant for "Discrete Time Signals and Systems" course by prof. Jafar.
- Teaching Assistant for "Communication Systems" course by prof. Behnia.
- Teaching Assistant for "Digital Signal Processing" course by prof. Mashhadi.
- Laboratory Assistant for "Microprocessor and Computer structure" course by prof. Jahed.
- Technical committee of Sharif Cup 2013 in path finder league.
- Teaching math Olympiad in some high schools in Tehran.

Computer Skills:

- Programming Languages: Python, Matlab, C++, Assembly language.
- Proficient in Pytorch, Keras and Tensorflow.
- Microsoft office: Word, Excel, Power Point, Visio.