

# SEPEHR JANGHORBANI

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## EDUCATION

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<b>Rutgers University</b> PhD Candidate - Computer Science (Concentration: Machine Learning)	<i>2017 - Present</i> <b>GPA: 3.91/4.0</b>
<b>Sharif University of Technology</b> Bachelor of Science - Computer Engineering	<i>Sep. 2011 - Jul. 2016</i> <b>GPA: 17.16/20.0</b>

## RESEARCH EXPERIENCE

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<b>Disney Research Los Angeles</b>	<i>May.2018- Aug 2018</i>
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Worked as part of Deep Learning and NLP team on two distinct projects:

- Designed and developed a **knowledge extraction** model for **natural language understanding**.
- Designed a deep neural model with hierarchical attention for **dialogue topic modelling**.

<b>Rutgers University Deep Data &amp; Machine Learning Lab</b>	<i>May.2017- Present</i>
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Developing novel **deep Bayesian generative models** using **Variational inference** that can help agents understand the world around them **with minimal supervision**. These models are applied to **computer vision** as well as **NLP**.

<b>Sharif Machine Learning, Big Data Analysis and Bioinformatics Lab</b>	<i>2014-2016</i>
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Proposed a **Bayesian model** utilizing MCMC-based techniques, designed for **statistical association of disease causing genes in population-structured genetic data**.

## PUBLICATIONS

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**SCALOR: Generative World Models with Scalable Object Representations**  
Jindong Jiang \*, Sepehr Janghorbani \*, Gerard De Melo, Sungjin Ahn (\* **Equal Contribution**)  
International Conference on Learning Representations (ICLR) 2020

**Topic Spotting using Hierarchical Networks with Self Attention**  
Pooja Chitkara, Ashutosh Modi, Pravalika Avvaru, Sepehr Janghorbani and Mubbasir Kapadia  
North American Chapter of ACL (NAACL) 2019

**Domain Authoring Assistant for Intelligent Virtual Agents**  
Sepehr Janghorbani, Ashutosh Modi, Jakob Bauman and Mubbasir Kapadia  
Autonomous Agents and Multi-Agent Systems (AAMAS) 2019

**Statistical Association Mapping of Population-Structured Genetic Data**  
Amir Najafi \*, Sepehr Janghorbani \*, S.A. Motahari, Emad Fatemizadeh (\* **Equal Contribution**)  
IEEE Transactions on Computational Biology and Bioinformatics

## HONORS & AWARDS

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**Awarded 5000\$ Fellowship for Excellence** (Awarded based on credentials and the advisor's recommendation at the time of admission) *2017*

**Ranked 237th (among the top 0.1%)** in the National University Entrance Exam with **more than 300,000** participants across the nation. *2011*

**Admission to Sharif University of Technology**, the best and most prestigious university in the country. *2011*

**Ranked 11th** in the Statewide Students Educational Progress Competition, with **more than 76000** participants across the state. *Fall 2006*

**Ranked 1st** in the Students Scientific Competition across the state. *Fall 2003*

**Member of National Organization for Development of Exceptional Talents** *2004 - Present*

## OTHER SELECTED PROJECTS

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- **Unsupervised Crowd Behavior using Deep Generative Models** (Ongoing)
- **Semi-supervised Feature representation learning for categorical data** (Ongoing)
- **A Generalized Method for Fake News Classification using deep Bi-lstms**
- **Classifying Motor Movements from EEG Data Using a Spiking Neural Network**

## TEACHING EXPERIENCE

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**Rutgers University** *2017-Present*

Massive Data Mining and Deep learning, Artificial Intelligence, Computer Math and Science, Introduction to Algorithm Design, Discrete Structures

**Sharif University of Technology** *2014-2016*

Artificial Intelligence, Digital Electronics, Computer Architecture

## REVIEW EXPERIENCE

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AISTAT, NAACL, EMNLP & LDK.

## TECHNICAL SKILLS

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**Programming Languages:** Python, C, C++, Java, MATLAB, Prolog, Verilog.

**Deep Learning Tools :** Tensorflow, Pytorch, Scikit Learn, Gensim

**Tools:** ModelSim, Altera Quartus, Packet Tracer, Wireshark, HSPICE, PSPICE, Codevision AVR, EEG-Sampler

## RESEARCH INTERESTS

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Bayesian Deep Learning

Variational Inference

Generative Modelling

Computer Vision

Natural Language Processing

Self-Supervised Feature Representation Learning