Amir Arsalan Soltani

Interested in building cognitively-plausible models of perception in the 3D world

@ arsalan@brown.edu Providence, RI http://amir-arsalan.github.io

- United States Permanent Resident - Employment Authorized

Education

Brown University
Doctor of Philosophy, Computer Science

September 2020 – Ongoing Providence, RI

State University of New York at Buffalo
Master of Science, Computer Science

Graduated in December 2015 Buffalo,NY

- Concentration: Machine Learning

Islamic Azad University
Bachelor of Science, Computer Software Engineering

Graduated in May 2012 Najafabab, Iran

- Ranked 19 in the nationwide entrance exam for B.Sc
- Distinguished Student Award

Research Experience

Brown University
PhD Student, Department of Computer Science

September 2020 – Present Providence, RI

- Endowing AI agents with the ability to build mental models of the environment and perform delicate interactions

Massachusetts Institute of Technology
Research Assistant, Computational Cognitive Science Lab

April 2016 – August 2020 Cambridge, MA

- Developed an inverse graphics model that allows AI agents to use their understanding of objects and physics and recognize objects draped with cloth (Manuscript in Preparation, 2021)
- Built a generative model for 3D objects to endow AI agents with a basic understanding of objects
- Contributed to building a Bayesian face recognition model as a step toward enabling easy face recognition in novel contexts

State University of New York at Buffalo
Research Assistant, Center for Unified Biometrics and Sensors

September 2015 – December 2015 Buffalo, NY

- Built an LDA-based model to do author name disambiguation for multiple departments at SUNY at Buffalo
- Modeled battery charging patterns for hundreds of mobile phone users with HMMs

Skills

- AI and ML: Neural Networks, Graphical Models, Bayesian Optimization, Reinforcement Learning
- Technical: PyTorch, Blender, NVIDIA FleX, C++

Invited Talks

Vision Meets Cognition Workshop
Computer Vision and Pattern Recognition (CVPR)

July 2017 Honolulu, HI

MIT Vision Seminar
Massachusetts Institute of Technology

October 2017 Cambridge, MA

Publications

Inverse Rendering Best Explains Face Perception Under Extreme Illuminations
Egger B., Siegel M., Arora R., Soltani AA., Yildirim I. and Tenenbaum J.

2020

Cognitive Science Society(CogSci)

Draping an Elephant: Uncovering Children's Reasoning About Cloth-Covered Objects
Ullman T., Kosoy E., Yildirim I., Soltani AA., Siegel M., Tenenbaum J. Spelke E.

2019

Cognitive Science Society(CogSci)

Synthesizing 3D Shapes via Modeling Multi-View Depth Maps and Silhouettes with Deep Generative Networks
Soltani, AA., Huang, H., Wu, J., Kulkarni, T. Tenenbaum, J.

2017

Computer Vision and Pattern Recognition(CVPR)