Rishub Jain

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EDUCATION

Carnegie Mellon University

BS in **Computer Science**
Minor in **Machine Learning**
May 2018 | GPA: 3.97/4.0

Masters in **Machine Learning**
Expected **May 2019** | GPA: 4.0/4.0

Thomas Jefferson High School for Science & Technology (TJHSST)

June 2015 | GPA: 4.4/4.0

COURSEWORK

Graduate

- Machine Learning (PhD) [10-701]
- Machine Learning (Masters) [10-601]
- Deep Learning [10-707]
- Deep Reinforcement Learning & Control **(TA)** [10-703]
- Language Grounding to Vision & Control [10-808]
- Convex Optimization [10-725]†
- Probability & Math Statistics [36-700]†
- Data Analysis [10-718]†

(†: in progress)

Undergraduate

- Practical Data Science [15-388]
- Artificial Intelligence [15-381]
- Modern Regression [15-401]
- Statistical Inference [36-226]
- Matrix Algebra [21-241]

- Parallel Computer Architecture and Programming [15-418]
- Algorithm Design and Analysis [15-451]
- Great Theoretical Ideas [15-251]
- Computer Systems [15-213]
- Parallel and Sequential Data Structures and Algorithms [15-210]
- Functional Programming [15-150]
- Complexity Theory [15-455]

SKILLS

Python • Java • C • C++
R • Matlab • Javascript • SML
Tensorflow • Keras • scikit-learn

Deep Learning • Computer Vision • NLP

EXPERIENCE

Uber ATG Software Engineering Intern | Summer 2018 | Pittsburgh, PA
- Leveraged active learning to analyze and improve models that predict object movement around an autonomous car

Apple Software Engineering Intern | Summer 2017 | Cupertino, CA
- Improved aspects of the chip design process using machine learning
- Developed automated ticket assignment system

CMU Research Assistant | Spring 2017 - Present | Pittsburgh, PA
- Diagnosed diseases given clinical records of patient using ML
- Captioned medical images with limited data
- Built new capabilities for Robot Soccer, including an RL model to chip-kick

Disney Research Research Asst. | Spring & Fall 2016 | Pittsburgh, PA
- Developed machine learning models to predict real-time engagement levels
- Built a tree-based conversational robot by learning to reuse dialog

Bloomberg LP Software Eng. Intern | Summer 2016 | New York, NY
- Developed platform for real-time client-side debugging

National Inst. of Health SWE Intern | Summer 2015 | Bethesda, MD
- Generated atomic resolution reconstructions of proteins using cryo-EM

U.S. Army Research Lab SWE Intern | Summer 2014 | Aberdeen, MD
- Developed a two-way converter between 3D geometry formats

NASA Software Eng. Intern | Summer 2013 | Goddard, MD
- Transformed the raw satellite images into usable and accurate formats

PUBLICATIONS

- J. Kennedy, I. Leite, A. Pereira, M. Sun, B. Li, **R. Jain**, R. Cheng, E. Pincus, E. Carter, and J. Lehman. **Learning and Reusing Dialog for Repeated Interactions with a Situated Social Agent**. In *Proceedings of the International Conference on Intelligent Virtual Agents*, 2017
- N. Sadoughi, A. Pereira, **R. Jain**, I. Leite, and J. Lehman. **Creating Prosodic Synchrony for a Robot Co-player in a Speech-controlled Game for Children**. In *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction*, 2017

PROJECTS

2018	Improving Single-GPU Performance for DQNs	15-418 Final Project
2017	Feature Flow for Frame Interpolation	10-707 Final Project
2017	Autonomous Object Translation from Language	10-808 Final Project
2017	Skill Trees for Hierarchal Reinforcement Learning	10-703 Final Project
2017	RL-based AI for Breakout and Tetris	15-381 Final Project
2016	Predicting and Analyzing Crime in Pittsburgh	15-388 Final Project
2016	Organic Compound Identifier using CV	AT&T Hackathon
2016	Real Time Pool Game Helper using CV	Build18
2015	Luggage Recognition using CV	Research Project

AWARDS

2018	2nd Place at RoboCup 2018 in the Small Size robot soccer leaguge
2017	Best Technical Paper in ACM/IEEE HRI 2017
2016	1st Place in AT&T Mobile App Hackathon (OCalc)
2014	Eagle Scout Award
2013	1st Place in Intern Presentation Contest at NASA Goddard