


# 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]<sup>†</sup>
  - Probability & Math Statistics [36-700]<sup>†</sup>
  - Data Analysis [10-718]<sup>†</sup>
- (<sup>†</sup>: in progress)

### Undergraduate

- Practical Data Science [15-388]
  - Artificial Intelligence [15-381]
  - Modern Regression [15-401]
  - Statistical Inference [36-226]
  - Matrix Algebra [21-241]
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- 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 Hierarchical 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	2 <sup>nd</sup> Place at RoboCup 2018 in the Small Size robot soccer league
2017	Best Technical Paper in ACM/IEEE HRI 2017
2016	1 <sup>st</sup> Place in AT&T Mobile App Hackathon (OCalc)
2014	Eagle Scout Award
2013	1 <sup>st</sup> Place in Intern Presentation Contest at NASA Goddard