

Rishub Jain

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EDUCATION

Carnegie Mellon University

BS in **Computer Science**
Minor in **Machine Learning**
May 2018 | GPA: 3.96/4.0

Masters in **Machine Learning**
Expected **May 2019**

Thomas Jefferson High School for Science & Technology (TJHSST)
Grad. June 2015 | GPA: 4.4/4.0

COURSEWORK

Undergraduate

- Machine Learning (PhD)[†] [10-701]
- Machine Learning [10-601]
- Deep Learning[†] [10-707]
- Deep Reinforcement Learning & Control [10-703]
- Language Grounding to Vision & Control[†] [10-808]
- Practical Data Science [15-388]
- Artificial Intelligence [15-381]
- Modern Regression[†] [15-401]
- Statistical Inference [36-226]
- Probability Theory [36-217]
- Matrix Algebra [21-241]

- 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]

([†]: in progress)

High School

- Multivariable Calculus
- Complex Analysis
- Differential Equations
- Robotics

SKILLS

Python • Java • C/C++ • Javascript
SML • bash • R • Matlab • SQL
Tensorflow • scikit-learn

Deep Learning • Computer Vision • NLP

EXPERIENCE

Apple

Software Engineering Intern | Summer 2017 | Cupertino, CA

- Improved the chip design process using machine learning

Carnegie Mellon University

Research Assistant | Spring 2017 - Present | Pittsburgh, PA

- Developed models for disease diagnosis given clinical records of patient
- Captioned medical images with limited data
- Learning opponents' strategies in Robot Soccer using imitation learning

Disney Research

Research Assistant | Spring & Fall 2016 | Pittsburgh, PA

- Developed machine learning models to predict engagement levels of kids in real-time using visual and audio features
- Developed a tree-based conversational robot by learning to reuse dialog

Bloomberg LP

Software Engineering Intern | Summer 2016 | New York, NY

- Designed and implemented entire platform for developers to remotely change users' settings and controls in real-time for debugging purposes

National Institutes of Health

Software Engineering Intern | Summer 2015 | Bethesda, MD

- Generated atomic resolution reconstructions of proteins using cryo-EM
- Developed image processing algorithms for detecting aggregate particles

U.S. Army Research Laboratory

Software Eng. Intern | Summer 2014 | Aberdeen Proving Ground, MD

- Developed a two-way converter between 3D geometry formats

NASA

Software Eng. Intern | Summer 2013 | Goddard Space Flight Center, 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

2017	Skill Trees for Hierarchical Reinforcement Learning	10-703 Project
2017	RL-based AI for Breakout and Tetris	15-381 Project
2016	Predicting and Analyzing Crime in Pittsburgh	15-388 Project
2016	Organic Compound Identifier using CV (OCalc)	AT&T Hackathon
2016	Real Time Pool Game Helper using CV	Build18
2015	Luggage Recognition using CV	Research Project
2015	Group Organizer and Restaurant Finder (MapIO)	HackCMU

AWARDS

2017	Best Technical Paper in ACM/IEEE HRI 2017
2016	1 st Place in AT&T Mobile App Hackathon (OCalc)
2014	Eagle Scout Award
2013	1 st Place in Intern Presentation Contest at NASA Goddard