# Nithin Raghavan

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## EDUCATION

**University of California, Berkeley**
Computer Science, *Intended Bachelor of Arts*, Physics *Intended Minor*

- CS61A: Structure and Interpretation of Computer Programs
- Blockchain for Developers
- Physics 5A: Introductory Mechanics and Relativity
- Astronomy 84: Black Holes
- CS61B: Data Structures
- CS70: Discrete Mathematics and Probability Theory

**Georgia Institute of Technology** *August 2015 – May 2017*
Courses Taken while in High School

- Linear Algebra
- Multivariable Calculus
- Applied Combinatorics
- Number Theory and Cryptography

**Awards:** Exploravision National Contest *2016*
Wrote a paper proposing blockchain's potential link to autonomous vehicles, and won honorable mention.

## EXPERIENCE

**IBM Almaden Research Center, Machine Learning Laboratory** *August 2017*
Used Tensorflow and Keras to create artifical neural networks implementing the bag-of-words representation in order to analyze visual reasoning abilities on the CLEVR dataset, which encouraged complex reasoning in response to sophisticated English questions. Included sequence autoencoders, CNNs and LSTMs.

**Georgia Institute of Technology School of Aerospace Engineering** *September 2016 – May 2017*
Helped research the development of high-bandwidth, high-efficiency methods of energy transfer using millimeter waves, involving proposed circuits which have the potential to increase efficiency of wireless energy transfer up to 90%. Shadowed professors and graduate students working on wind tunnels.

**Georgia Institute of Technology School of Physics** *May 2016 – July 2016*
Shadowed professors and graduate students researching the potential impacts of the September 2015 LIGO sighting of gravitational waves. Worked with the Einstein toolkit to model relativistic astrophysical phenomena.

## PROJECTS

**Resource-Provisioning GPU Server** *December 2017 - present*
Developed, and currently helping maintain, a program and Python-based shell to automate on-demand request processing and resource provisioning in a GPU + CPU cluster within the EECS department for UC Berkeley use. Uses Slurm for cluster management, and deploys tasks in Docker containers.

**Using Keras on CLEVR Dataset to Test Visual Reasoning Prowess** *August 2017*
Used the Keras API to act on the CLEVR dataset to test artificial neural network visual reasoning abilities.

## SKILLS

**Frameworks/Softwares:** Numpy/Scipy, Pytorch, Keras, Git, Unity3D, Docker, Slurm, Ethereum VM
**Programming Languages:** Python, Java, C, C++, C#, CLisp, Bash, LaTeX, SQL, JavaScript, Solidity
**Operating Systems:** Unix-like systems (Linux, FreeBSD, Mac OS X), Windows
**Certifications:** Android Development (University of Maryland through Coursera)
**Languages:** English, Spanish, Tamil