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**Permanant Address**
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## Education

**Cornell University, Ithaca, NY**
Bachelor of Arts, Physics with concentration in Applied Mathematics
Bachelor of Arts, Mathematics, with concentration in Applied Mathematics
Expected Graduation Date: May 2017
GPA: 3.64/4.0

## Honors and Awards

Dean's List of Distinguished Students: Fall 2013, Spring 2014, Fall 2014, Spring 2015, Fall 2015

## Experience

**Research Team Member** — Professor Alexander Vladimirsky, Department of Mathematics, Cornell University — Summer 2016

I wrote a path-planning algorithm to improve ambulance response times. The algorithm allows ambulances to exploit their idle time by driving through more accident-prone areas. I implemented the algorithm using Python's NetworkX library, as well as a custom heap implementation which allowed for efficient in-place modification.

**Research Team Member** — Professor Bob Strichartz, Department of Mathematics, Cornell University — Summer 2015

I investigated properties of solutions to the Schrödinger equation on the Serpinski Gasket, a fractal space. I numerically solved the differential equation through discretization with a novel scheme, and equalled the previous theoretical bound on precision solutions for differential equations of this type.

**Research Team Member** — Professor John Phillip, Department of Physics, Catholic University of America — Summer 2014

I investigated the dynamics of micromagentic systems. I used and wrote programs to simulate micromagnetic dynamics and produce theoretical predictions about the geometry-dependend properties of small ferromagnetic materials.

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| **Intern** | Lockheed Martin Corporation<br>Gaithersburg, MD | Summer 2013 |

I created a system to deploy servers automatically to execute hadoop and storm queries on a large dataset of healthcare records, as well as automated other systems administration tasks.

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| **Electronics Aide** | National Institute of Standards and Technology (NIST)<br>Gaithersburg, MD | Summer 2012 |

I created a console to display active jobs and broken nodes on a computer cluster at NIST and repaired broken computers.

## Skills

- Creating and analyzing numerical models, which used both linear algebra and differential equations to predict the behavior of a system, and experience writing executive summaries LaTeXto summarize my findings to a nontechnical audience.
- Writing robot control systems with Linux, Robot Operating System (ROS) using Python (numpy/scipy).
- Designing mechanical systems on a FIRST robotics competition robot using Autodesk Inventor, as well as acting as lead engineer.
- Working on teams to deliver projects and write-ups in engineering and mathematical modeling classes, some involving collaborating on a significant amount of shared code using Git.

## Programming Languages

- Proficient in Python, as well as its numpy and scipy libraries
- Experienced with Matlab, Julia, and Octave

## Relevant Coursework

| **Math** | **Physics** | **Engineering** |
|---|---|---|
| Numerical Analysis | Fluid Dynamics | Mobile Sensor Planning |
| Nonlinear Dynamics | Thermodynamics | Robotic Manipulation |
| Mathematical Modeling | Computational Physics | Circuits |
| Complex Analysis | Quantum Mechanics | Lasers and Photonics |