

# Abigail Graese

PHD STUDENT · SOMETHING ELSE

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*"Talent is a pursued interest. Anything that you're willing to practice, you can do." –Bob Ross*

## Summary

1st year PhD student excited to explore the opportunities of an industry role. Experienced in learning quickly and getting the job done. Excited to translate skills gained in doing research on machine learning and computer vision to developing innovative solutions for complex problems.

## Education

### University of Notre Dame

South Bend, IN

1ST YEAR PHD STUDENT

May 2018 - present

- Teaching Assistant: Artificial Intelligence
- Course work: Graduate Operating Systems, Graduate Analysis of Algorithms, Data Science, Biometrics
- GPA: 3.91

### University of Colorado Colorado Springs

Colorado Springs, CO

BACHELOR OF INNOVATION IN COMPUTER SCIENCE

Aug. 2014 - May 2018

- Cross Discipline Core: Business Administration
- GPA: 3.68

## Professional Experience

### Computer Vision Research Lab

South Bend, IN

GRADUATE RESEARCH ASSISTANT

May 2018 - present

- Developing software for mapping images extracted from a scientific paper to text that references the extracted images
- Researching novel ways to improve deep learning model performance on open set problems
  - Developing a new loss function for deep neural networks
  - Designing thorough experimentation to test performance of the new approach on accepted performance metrics
- Reviewer for IEEE Winter Conference on Applications of Computer Vision 2019

### Vision and Security Technology Lab

Colorado Springs, CO

UNDERGRADUATE RESEARCH ASSISTANT

Aug. 2016 - May 2018

- Adapted use of dropout, a neural network layer, to test the resulting performance of an open set classifier on adversarial inputs
- Provided technical writing support to graduate students preparing papers for submission to computer science conferences

### NSF Research Experience for Undergraduates

Colorado Springs, CO

RESEARCH INTERN

May 2016 - Aug. 2016

- Developed software to run experiments that tested the natural defenses of deep neural networks against adversarial inputs
- Prepared technical reports detailing the approach, experiments, and presenting the analysis of the results
- Resulted in a publication in IEEE International Conference on Machine Learning Applications 2016 (see publications)

### Active Youth Network, LLC

Englewood, CO

TECHNICAL INTERN

Dec. 2014 - Dec. 2015

- Built iOS and Android mobile apps, using the SeattleClouds application framework
- Published over 50 mobile apps to Apple App Store & Google Play
- Enhanced web based user interfaces and functionality

## Publications

### Assessing Threat of Adversarial Examples Against Deep Neural Networks

Anaheim, CA

ABIGAIL GRAESE, ANDRAS ROSZA, AND TERRANCE E. BOULT

2016

- IEEE International Conference on Machine Learning Applications (ICMLA)  
<https://arxiv.org/pdf/1610.04256.pdf>

### The Bachelor of Innovation: A Student's Perspective

Washington D.C.

ABIGAIL GRAESE, DANIEL LEMMOND, AND TERRANCE E. BOULT

2018

- ACIL International Conference On Innovation and Entrepreneurship (ICIE)  
<https://books.google.com/books?isbn=1911218719> p. 151

## Technical Skills

**Languages** Python, Java, Shell Scripting, C#, C, Ruby, HTML, LaTeX

**Machine Learning Frameworks** Tensorflow, Keras, Caffe