

# ADAKU UCHENDU

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## EDUCATION

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**Pennsylvania State University**

PhD in Information Sciences and Technology

**Research Interests:** *NLP, NLG, cybersecurity, Adversarial Robustness*

**Thesis:** *Reverse Turing Tests*

*State College, Pennsylvania*

*August 2018 - Present*

**University of Maryland Baltimore County**

B.S, Mathematics | Minor: Statistics

Honors: Cum Laude

**Thesis:** *Numerical Simulation of Vibrations of Mechanical Structures*

*Baltimore, Maryland*

*August 2014 - May 2018*

## ACADEMIC ACHIEVEMENTS AND AWARDS

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McNair Scholar

*January 2016 - May 2018*

Undergraduate Research Award Scholar

*March 2017 - May 2018*

Pi Mu Epsilon Mathematics Honors Society

*May 2017 - May 2018*

Bunton-Waller Graduate Fellowship

*August 2018 - Present*

Best Documentation at ATRC internship

*August 2019*

Best Poster Presentation at ATRC internship

*August 2019*

TTO Student Travel Scholarship

*October 2019*

NSF SFS Scholarship

*August 2020 - May 2023*

## SKILLS

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**Programming:** Python, R, Matlab, Java, LaTeX, Maple

**Tools:** PyTorch, Tensorflow, Keras

**Applications:** Git, Tableau, R Shiny

**Operating Systems:** Linux, Windows, MacOS

## PUBLICATIONS

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2. **Uchendu, A.**, Cao, J., Wang, Q., Luo, B., & Lee, D. "Characterizing Man-made vs. Machine-made Chatbot Dialogs," *In Conf. on Truth and Trust Online (TTO)*, London, UK, October 2019
1. Shao, J., **Uchendu, A.**, & Lee, D. (2019). "A Reverse Turing Test for Detecting Machine-Made Texts," *In 11th Int'l ACM Web Science Conf. (WebSci)*, Boston, MA, July 2019

## RESEARCH EXPERIENCE

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**Pennsylvania State University**

**Research project: Reverse Turing Test**

**State College, Pennsylvania**

*August 2018 - Present*

- Use nuance NLP techniques to distinguish text-generators (i.e. AI and Human).
- Work on long and short texts.
- Text generation with state-of-the-art Language Models (i.e. GPT2, GROVER, etc.).
- Currently working on other forms of Turing Tests like Authorship Attribution.

**ATRC, Air Force Research Laboratory**

**Research Assistant Intern**

**Virtual**

*May 2020 - October 2020*

- Performed research and experiments in the field of Computer Vision

- Trained Neural Networks on benchmark image datasets
- Built Bayesian models robust to white-box adversarial attacks
- Attacked models with strong white-box adversarial attacks

**ATRC, Air Force Research Laboratory**  
**Research Assistant Intern**

**Dayton, Ohio**  
*May 2019 - August 2019*

- Performed research and experiments in the field of Computer Vision
- Trained Neural Network on Satellite dataset
- Attacked model with a black-box adversarial attack
- This research is under Distribution Statement C and so details have to be vague.

**Federal Reserve Board**  
**Research Project**

**Washington, D.C.**  
*May 2017 - August 2018*

- Data preparation on Islamic and Commercial banks data
- Data analysis on data using Excel and R
- Examined financial growth of each bank
- Used correlation, regression and z-score tests to gain insights

**University of Maryland Baltimore County**  
**Research Assistant**

**Baltimore, Maryland**  
*February 2016 - May 2018*

- Worked on research titled, “*Numerical Simulation of Vibrations of Mechanical Structures*”
- Ultimate goal is to mitigate the effects of earthquake on buildings during earthquakes
- Implemented derivations in Matlab
- Findings were reported as my Senior Thesis

## WORK EXPERIENCES

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**Pennsylvania State University**  
**Graduate Assistantship**

**State College, Pennsylvania**  
*January 2019 - May 2019*

- Worked as a Teaching Assistant in a Security and Risk Analysis course.
- Assisted students on the use of Excel and R, graded and held office hours.

**HACKATHONS**  
**UMD Bitcamp**

**Maryland**  
*April 2017*

- Built a chrome extension named, ProcrastinationStation with a team
- It re-routes its user to the Procrastination-Station website when Facebook is accessed.
- The goal is to discourage Facebook surfing while doing school work

**HackUmbc**

- Built an R Shiny dashboard named, Data Visualization.
- The dashboard takes in a csv file and plots a figure based on the selected column.

**Math Lab Tutor**

*September 2015 - May 2018*

- Tutored the following courses: Pre-calculus, calculus I, Calculus II, Calculus III, Linear Algebra, Differential Equations and College Algebra.

**Math Learning Assistant (LA)**

*August 2016 - December 2016*

- Assisted students in Pre-Calculus.
- Held weekly discussion sessions and Office hours.
- Presented the students with a weekly individual quiz and graded it.