ADAKU UCHENDU

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EDUCATION

Pennsylvania State University — *State College, Pennsylvania*
PhD in Information Sciences and Technology — *August 2018 - Present*
Research Interests: *NLP, NLG, cybersecurity, Adversarial Robustness*
Thesis: *Reverse Turing Tests*

University of Maryland Baltimore County — *Baltimore, Maryland*
B.S, Mathematics | Minor: Statistics — *August 2014 - May 2018*
Honors: Cum Laude
Thesis: *Numerical Simulation of Vibrations of Mechanical Structures*

ACADEMIC ACHIEVEMENTS AND AWARDS

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*
CRA-W URMD Travel Support — *March 2020*
ACM Richard Tapia Conference Student Scholarship — *September 2020*

SKILLS

Programming: Python, R, Matlab, Java, LaTeX, Maple
Tools: PyTorch, Tensorflow, Keras
Applications: Git, Tableau, R Shiny
Operating Systems: Linux, Windows, MacOS

PUBLICATIONS

3. **Adaku Uchendu**, Thai Le, Kai Shu, Dongwon Lee "Authorship Attribution for Neural Text Generation" *Conf. on Empirical Methods in Natural Language Processing (EMNLP)*, Virtual Event, November 2020

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

Pennsylvania State University — **State College, Pennsylvania**
Research project: Reverse Turing Test — *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 **Virtual**
Research Assistant Intern *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 **Dayton, Ohio**
Research Assistant Intern *May 2019 - August 2019*

- Performed research and experiments in the field of Computer Vision
- Trained Neural Network on Satelite 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 **Washington, D.C.**
Research Project *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 **Baltimore, Maryland**
Research Assistant *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

Pennsylvania State University **State College, Pennsylvania**
Graduate Assistantship *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 **Maryland**
UMD Bitcamp *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.