ADAKU UCHENDU

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EDUCATION

Pennsylvania State University *State College, Pennsylvania*
Ph.D. 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*
Outstanding Tutor Award	*May 2018*
Bunton-Waller Graduate Fellowship	*August 2018 - May 2020*
Best Documentation at ATRC internship	*August 2019*
Best Poster Presentation at ATRC internship	*August 2019*
TTO Student Travel Scholarship	*October 2019*
CRA-W URMD Travel Support	*March 2020*
NSF SFS Scholarship	*August 2020 - May 2023*
ACM Richard Tapia Conference Student Scholarship	*September 2020*
Alfred P. Sloan Minority Ph.D. Scholarship	*January 2021 - Present*
CRA-WP Grad Cohort for Women	*April 2021*
WiCyS Student Scholarship	*September 2021*

SKILLS

Programming: Python, R, Matlab, Java, LaTeX, Maple
Tools: PyTorch, Tensorflow, Keras, Transformers
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," *In Proceedings of the 2020 Conference 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

INVITED TALKS

- *Reverse Turing Tests*, at National Institute of Standards and Technology (NIST), **Applied and Computational Mathematics Division (ACMD)** Seminar Series, Virtual, May 25, 2021.

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. GPT-2, GROVER, etc.).
- Currently working on other forms of Turing Tests like Authorship Attribution.

IBM Research **San Jose, California (Virtual)**
Ph.D. Research Intern *May 2021 - August 2021*

- Automated Artificial Intelligence (AutoAI)

ATRC, Air Force Research Laboratory **Dayton, Ohio (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

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

University of Maryland Baltimore County **Baltimore, Maryland**
Research Assistant *February 2016 - May 2018*

- Worked on research titled, "*Numerical Simulation of Vibrations of Mechanical Structures*"
- 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.

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.

University of Maryland Baltimore County   **Baltimore, Maryland**
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.

PROFESSIONAL SERVICES

Journal Reviewer

- Social Network Analysis and Mining (SNAM)   *2021*

- Language Resources and Evaluation (LREV)   *2021*