IAN WHITEHOUSE
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PROFESSIONAL SKILLS PROFILE

- Machine learning researcher with experience working with TensorFlow, Pytorch, and HuggingFace for image, acoustic, and time-series projects
- Skilled both high-level programming in Python and Java and system-level development in C++ on Linux
- Holds an active secret DoD clearance and have experience working on DoD and DARPA projects
- Experienced in model-based and test-based development, including in MATLAB/Simulink and Mathematica

EDUCATION

University of Maryland   **College Park, MD**
Doctor of Philosophy in Computer Science   *August 2024 – Present*
- Advised by Dr William Regli
- Relevant coursework: Computational Imaging, Computational Audition

American University   **Washington, DC**
Bachelor of Science in Computer Science, summa cum laude   *August 2020 – May 2024*
- Awardee of the Lockheed Martin STEM Scholarship and Dean's Scholarship
- Member of the American University Honors Program and Upsilon Pi Epsilon honors fraternity

EXPERIENCE

University of Maryland   **College Park, MD**
Graduate Research and Teaching Assistant, Department of Computer Science   *August 2024 – Present*
- Led review sections and designed and graded homework assignments for a 240-person introduction to A.I. class
- Used statistic-based approaches to reduce evaluation requirements for the DARPA QuICC project

Leidos, Inc.   **Arlington, VA**
Machine Learning Intern, Leidos Innovation Center   *May 2023 – August 2024*
- Developed efficient, interpretable machine learning models for underwater acoustic sensing applications
- Employed principles of digital signal processing to understand how machine learning models interpret sensor data
- Presented my novel research to U.S. Navy personnel at the Naval Applications of Machine Learning conference

American University   **Washington, DC**
Research Assistant, Institute for IDEAS and Department of Computer Science   *September 2021 – May 2024*
- Devised, developed, and studied a novel machine-learning architecture for anomaly detection
- Co-author of two papers applying Spark to misinformation detection and primary author of a paper applying Spark to concept drift detection within massive datasets
- Assisted in the production of Vera, the first film produced at American University's volumetric capture studio

Lockheed Martin   **Syracuse, NY**
Student Software Engineer, Rotary and Mission Systems   *May 2022 – August 2022*
- Wrote C++ software to parse binary files and improve server-based playback capabilities
- Debugged software and automated tests using Jenkins and Robot Framework
- Worked with teammates to integrate new tests and meet evolving customer expectations

PUBLICATIONS

I. Whitehouse and G. Byrne, Adversarial Machine Learning Training for Signal-to-Noise Generalization in Passive Undersea Acoustics, San Diego, CA: Naval Applications of Machine Learning, 2024.

I. Whitehouse, R. Yepez-Lopez and R. Corizzo, "Distributed Concept Drift Detection for Efficient Model Adaptation with Big Data Streams," in *Proceedings of the 2023 IEEE International Conference on Big Data*, Sorrento, Italy, 2023.

L. P. Damasceno, E. Rexhepi, A. Shafer, **I. Whitehouse**, N. Japkowicz, C. C. Cavalcante, R. Corizzo and Z. Boukouvalas, "Exploiting Sparsity and Statistical Dependence in Multivariate Data Fusion: An Application to Misinformation Detection for High-Impact Events," *Machine Learning*, 2023.

L. P. Damasceno, E. Rexhepi, A. Shafer, **I. Whitehouse**, C. C. Cavalcante, R. Corizzo and Z. Boukouvalas, "Independent Vector Analysis with Sparse Inverse Covariance Estimation: An Application to Misinformation Detection," in *Proceedings of the IEEE 33rd International Workshop on Machine Learning for Signal Processing (MLSP)*, Rome, 2023.