Ayushi Mehrotra

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EDUCATION

CALIFORNIA INSTITUTE OF TECHNOLOGY Pasadena, CA
Coursework: Real Analysis (A), Ordinary Differential Equations (A+), Linear Algebra (A+) Expected Grad: May 2029

WORK EXPERIENCE

ROCHESTER INSTITUTE OF TECHNOLOGY, AI4Sec LAB Rochester, NY
First Author + Researcher May 2023 – Present
- Mentored by Dipkamal Bhusal and Professor Nidhi Rastogi, Department of Software Engineering.
- Designed feature interaction detection and attribution methods for <u>computer vision,</u> presented in NeurIPS ATTRIB Workshop.
- Innovating patch attack detection algorithms using concept-based explainable AI for autonomous vehicles with Toyota.
- Part of 2023, 2024 RIT CyberVSR cohort with 25 undergraduates and graduates students internationally.

AT&T LABS Manhattan, NY
Lead for Project "AdvMed" July 2024 – Feb 2025
- Advised by Dr. Aritra Guha and Dr. Zhengyi Zhou, Chief Research Scientist
- Designed 6 detection and classification algorithms for <u>adversarial machine learning</u> in computer vision; Presented at International Symposium on Biomedical Imaging, Athens, Greece and gave talk at National Security Agency

CHAPMAN UNIVERSITY Orange, CA
Sole Author + Researcher May 2023 – June 2024
- Advised by Professor Alexander Kurz, Department of Computer Science
- Studied application of <u>fuzzy graph theory</u> in kidney exchanges and devised algorithm for incorporating human preferences
- Presented research at American Association for the Advancement of Science (AAAS) Annual Meeting

UNIVERSITY OF SOUTHERN CALIFORNIA Interactions LAB Los Angeles, CA
Sole Author + Researcher June 2022 – July 2022
- Advised by Dr. Lauren Klein and Professor Maja Mataric, 1 of 4 freshman from ~100 students in 2022 USC SHINE cohort
- Created <u>data visualizations</u> for machine learning algorithms used in Socially Assistive Robots interacting with infants

VOLUNTEER EXPERIENCE

CRACK THE CODE Irvine, CA
Executive Director May 2022 – Present
- Raised $15,000, negotiated with 10+ sponsors, and organized hackathon for 500+ students located in California & Canada
- Led 30+ students in marketing, sponsorship, logistics, hackathon development, and website teams to execute event planning

PUBLICATIONS

Malladi, B., *Mehrotra, A.*, Hachante A. "SnoozeNet: Causality-Driven Transformers for Interpretable Sleep Stage Classification." MIT Undergraduate Research and Technology Conference 2024, Boston, MA.

Mehrotra, A., Bhusal, D., Rastogi, N. "Hessian Sets: Uncovering Feature Interactions in Image Classification." 2nd ATTRIB NeurIPS Workshop, Vancouver, Canada [Submitted to Conference on Computer Vision and Pattern Recognition]

Mehrotra, A. "AdvMed: Detecting Adversarial Attacks in Medical Deep Learning Systems." International Symposium on Biomedical Imaging 2024, Athens, Greece. https://biomedicalimaging.org/2024/isbi24-technical-program/

ADDITIONAL

Technical Skills: Advanced in Python, C++, Tensorflow, Pytorch, Java; Proficient in MATLAB, Gurobi Optimizer
Languages: Fluent in English, Hindi; Conversational in Spanish
Awards: National Winner @ National Center for Women & Information Technology (NCWIT), 1st place Cybersecurity & Non-Trivial Fellowship @ International Science and Engineering Fair (ISEF) 2024, Undergraduate Research Winner @ 2023 Women in Cybersecurity Conference, Science Olympiad Nationals 2023, 2022: Write It CAD It 3rd place & Cybersecurity 5th place