Pedro Sandoval Segura

Contact Information

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Research Interests

I am broadly interested in computer vision and deep learning. Lately, my research focuses on adversarial examples and the benefits of adversarial training.

Education

University of Maryland, College Park, MD
Ph.D., Computer Science — Expected May 2025
M.S., Computer Science — May 2021
Scholarly Paper: "Adversarially Robust Segmentation Models Learn Perceptually-aligned Gradients"

Harvey Mudd College, Claremont, CA
B.S., Computer Science and Mathematics — May 2019
Graduated with High Distinction

Research Experience

Computer Vision Lab, University of Maryland — Aug 2020 - Present
Working with Prof. David Jacobs
- Studying a variety of adversarial attacks for computer vision tasks

Institute for Systems Research, University of Maryland — Aug 2019 - Aug 2020
Graduate Research Assistant I
Working with Prof. Dana Nau and Prof. William Regli
- Investigated algorithms for heterogeneous team formation and temporal planning
- Authored a publication for future submission

AMISTAD Lab, Harvey Mudd College — Jan 2019 - May 2019
Working with Prof. George Montañez
- Studied notions of algorithm capacity and dataset complexity
- Published findings in ICAART 2020

Neural Networks Group, Harvey Mudd College — Aug 2017 - May 2018
Working with Prof. Robert Keller
- Explored programming language translation using a tree-to-tree model
- Published findings in an ICML workshop

Industry Experience

Facebook, Inc. — Summer 2018
Software Engineering Intern, Project LightSpeed
- Implemented and monitored new share flow functionality for encrypted Messenger threads, allowing users to forward text, sticker, photo, audio, and video securely
- Received a full-time offer at the conclusion of internship

Facebook, Inc. — Summer 2017
Software Engineering Intern, Messenger Groups
- Designed and built MVVM architecture for a new Groups Tab approvals surface, enabling users to accept join requests across multiple group threads
- Oversaw, implemented, and ran an A/B test interleaving active groups in the Active Tab which drove topline metrics such as group sends and group creates

Facebook, Inc. Summer 2016
Facebook University for Engineering Intern
- Organized engineering tasks, drafted feature ideas, and collaborated with a team of 3 to build InSync, an iOS app which synchronizes music on multiple devices

Teaching Experience

CMSC421: Introduction to Artificial Intelligence Spring 2021
Graduate Teaching Assistant, University of Maryland

CMSC421: Introduction to Artificial Intelligence Fall 2020
Graduate Teaching Assistant, University of Maryland

CMSC436: Programming Handheld Systems Fall 2019
Graduate Teaching Assistant, University of Maryland

CS81: Computability and Logic Spring 2019
Teaching Assistant, Harvey Mudd College

MATH187: Operations Research Spring 2019
Grader, Harvey Mudd College

Honors and Awards

Google CS Research Mentorship Program (CSRMP)	2021
Richard Tapia Conference Scholarship	2020
CRA-WP Grad Cohort for URMD	2020
UMD International Conference Student Support Award	2020
UMD Dean's Fellowship Program	2019 - 2020
ARCS Scholarship, Los Angeles Chapter	2016 - 2019
Students Rising Above Scholarship	2015 - 2019

Publications

4. Bashir, Montañez, Sehra, **Sandoval Segura**, Lauw. "An Information-Theoretic Perspective on Overfitting and Underfitting". In *Australasian Joint Conference on Artificial Intelligence (AJCAI)*, 2020.

3. **Sandoval Segura**, Lauw, Bashir, Shah, Sehra, Macias, Montañez. "The Labeling Distribution Matrix (LDM): A Tool for Estimating Machine Learning Algorithm Capacity". *12th International Conference on Agents and Artificial Intelligence (ICAART)*, 2020. arXiv:1912.10597

2. Drissi, **Sandoval**, Ojha, Medero. "Harvey Mudd College at SemEval-2019 Task 4: The Clint-Buchanan Hyperpartisan News Detector". In *Proceedings of The 13th International Workshop on Semantic Evaluation (SemEval)*, 2019. arXiv:1905.01962

1. Drissi, Watkins, Khant, Ojha, **Sandoval**, Segev, Weiner, Keller. "Programming Language Translation using a Grammar-Driven Tree-to-Tree Model". *ICML Workshop on Neural Abstract Machines and Program Induction v2 (NAMPI)*, 2018. arXiv:1807.01784

Leadership and Outreach

CS Department M.S. and Ph.D. Admissions Committee	Spring 2020
UMD Graduate Student Government Representative	Fall 2019
JumpStart Computing Workshop, Iribe Initiative for Inclusion & Diversity in Computing	Fall 2019

Personal Information

Citizenship: United States
Language: English, Spanish