

EDUCATION

University of Pittsburgh Ph.D Student in Intelligent Systems — School of Computing and Information	Pittsburgh, PA
University of Pittsburgh Bachelor of Science in Mathematics — Dietrich College of Arts and Sciences	April 2019
Minor in Computer Science — School of Computing and Information	GPA: 3.89/4.00
University of Miami: 14 Credits — College of Engineering	GPA: 4.00/4.00
Relevant Coursework: Machine Learning, Natural Language Processing, Computer Vision, Sports Data Science, Algorithm Design, Data Structures, Graph Theory, Probability/Statistics, Real Analysis, Linear/Abstract Algebra.	

RESEARCH

- **A. Sicilia**, X. Zhao, S.J. Hwang, “Domain Adversarial Neural Networks for Domain Generalization: When It Works and How to Improve”, *arXiv preprint 2102.03924*, 2021.
- **A. Sicilia**, X. Zhao, A. Sosnovskikh, S.J. Hwang, “PAC Bayesian Performance Guarantees for (Stochastic) Deep Networks in Medical Imaging”, in *Medical Image Computing and Computer Assisted Intervention (MICCAI)*, *Strasbourg, FR, October, 2021*
- **A. Sicilia**, X. Zhao, D. Minhas, E. O’Connor, H. Aizenstein, W. Klunk, D. Tudorascu, S.J. Hwang, “Multi-Domain Learning by Meta-Learning: Taking Optimal Steps in Multi-Domain Loss Landscapes by Inner-Loop Learning”, in *IEEE International Symposium on Biomedical Imaging (ISBI)*, *April, 2021*
- X. Zhao, **A. Sicilia**, D. Minhas, E. O’Connor, H. Aizenstein, W. Klunk, D. Tudorascu, S.J. Hwang, “Robust White Matter Hyperintensity Segmentation on Unseen Domain”, in *IEEE International Symposium on Biomedical Imaging (ISBI)*, *April, 2021*
- T. Maidment, **A. Sicilia**, P. Healy, M. Alikhani, “Deception Detection in a Human-Machine Visual Dialogue Task”, abstract (STAR Talk) at *NYAS Natural Language, Dialog and Speech Symposium (NDS)*, *November, 2020*
- **A. Sicilia**, K. Pelechris, and K. Goldsberry, “DeepHoops: Evaluating Micro-Actions in Basketball Using Deep Feature Representations of Spatio-Temporal Data”, in *ACM SIGKDD ’19, Anchorage, AK, USA, August, 2019*.
- M. Silvis, **A. Sicilia**, and A. Labrinidis, “PittGrub: A Frustration-Free System to Reduce Food Waste by Notifying Hungry College Students”, in *ACM SIGKDD ’18, London, UK, August, 2018*
- **A. Sicilia**, A. Labrinidis, and K. Pelechris, “A Holistic Evaluation of Transit Supply and Demand using Network Analysis: The TDI Framework”, oral presentation at *MUD3, ACM SIGKDD ’18, London, UK, August, 2018*
- **A. Sicilia**, “On the Applications of Convex-hull Based Spatial Metrics in the NBA”, poster presentation at *Cascadia Symposium on Statistics in Sports, Vancouver, BC, Canada, August, 2018*

RECENT WORK EXPERIENCE

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| University of Pittsburgh
<i>Graduate Student Researcher School of Computing and Information</i> | August 2019 - May 2020. August 2020-Present |
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- Conducted research on practical application of machine learning theory to deep neural networks. Topics included multiple domain problems, computable guarantees on network performance, and medical imaging applications.
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| Amazon
<i>Intern Last Mile Machine Learning Science</i> | May 2020 - Aug 2020 |
|---|---------------------|
- Designed/developed a machine learning pipeline to normalize a noisy data signal. Solution had lower error than rule-based competitors and limited data requirements for training and inference to maximize model coverage.
 - Investigated model performance on out-of-distribution samples, designing solutions and fail-safes for problem cases.
 - Delivered a production-level code package with all model components for easy re-use.
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| Toronto Blue Jays Baseball Research
<i>Intern High Performance Department</i> | May 2019 - August 2019 |
|---|------------------------|
- Applied machine learning to answer interdisciplinary research questions for a state-of-the-art sports science team.
 - Designed and developed predictive models integrated into automated systems to inform player development plans.
 - Conducted exploratory analysis of datasets and hypothesis testing to help inform decision making.

STARTUPS

Komodo

February 2020 - May 2020

Team Member

- Designed/implemented early stage prototypes for automated financial document parsing through computer vision.
- Fund-raised in multiple start-up competitions, taking 3rd place in Princeton's Tiger Launch, 2020.

PittGrub

December 2017 - May 2019

Co-founder | ADMT Labs

- Designed notification system for PittGrub (food-waste prevention start-up). Employed reinforcement learning and a valuation model to manage user prioritization under constraint by framing notification as a Knapsack Problem.
- Collaborated in development of system prototype and a comprehensive simulation environment for experimentation.
- Fund-raised in start-up competition, winning 3rd place in U. Pittsburgh's Kuzneski Innovation Cup, 2018.

ADDITIONAL WORK EXPERIENCE

Pitt Smart Living Project

May 2018 - April 2019

Undergraduate Researcher | Data/Systems Team

- Modeled transit systems in 50 U.S. cities as spatially embedded, multi-layer networks using GTFS and GIS data.
- Developed general infrastructure to build model components including a partition of an areal bounding box, multiple transit network models from GTFS data, a spatial network embedding, and multiple types of Graph Laplacian.
- Designed multi-modal transit model to enumerate transportation routes under constraint using bidirectional BFS.

Recitation Instruction (Data Structures & Intro. Python)

August 2017 - April 2019

Undergraduate Teaching Assistant | SCI, University of Pittsburgh

- Communicated course topics through weekly recitation lecture, supervised lab assignments, and office hours.

PROFESSIONAL SERVICE

Conference Reviewer:	Association for the Advancement of Artificial Intelligence (AAAI)	2020
Journal Reviewer:	Neurocomputing	2021
	IEEE Transactions on Circuits and Systems for Video Technology	2021

TECHNICAL PROFICIENCY

Frequent:	Python — PyTorch, NumPy, Pandas, SciPy, Scikit-Learn, Matplotlib; SQL, T _E X, Git.
Recent:	Experience in Keras, MATLAB, Swift/Xcode, Java; Exposure to Bootstrap, SQL Alchemy, Flask.