

## EDUCATION

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

## RESEARCH

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- (TACL, '22) | **A. Sicilia**, T. Maidment, P. Healy, M. Alikhani  
“Modeling Non-Cooperative Dialogue: Theoretical and Empirical Insights” in *Transactions of the Association for Computational Linguistics*, forthcoming, 2022.
- (UAI, '22) | **A. Sicilia**, K. Atwell, M. Alikhani, S.J. Hwang  
“PAC Bayesian Adaptation Bounds for Multiclass Learners”, in *The Conference on Uncertainty in Artificial Intelligence*, Eindhoven, Netherlands, August, 2022.
- (ACL, '22) | K. Atwell, **A. Sicilia**<sup>1</sup>, S.J. Hwang, M. Alikhani  
“The Change that Matters in Discourse Parsing: Estimating the Impact of Domain Shift on Parser Error”, in *Annual Meeting of the Association for Computational Linguistics*, Dublin, Ireland, May, 2022.
- (IJCAI, '22) | X. Zhao, C. Liu, **A. Sicilia**, S.J. Hwang, Y. Fu  
”Test-time Fourier Style Calibration for Domain Generalization”, in *The International Joint Conference on Artificial Intelligence and The European Conference on Artificial Intelligence*, Vienna, Austria, July, 2022.
- (Preprint) | **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*, February, 2021.
- (MICCAI, '21) | **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*, Strasbourg, FR, October, 2021.
- (ISBI, '21) | **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*, April, 2021.
- (ISBI, '21) | 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*, April, 2021.
- (NDS, '20) | T. Maidment, **A. Sicilia**, P. Healy, M. Alikhani  
“Deception Detection in a Human-Machine Visual Dialogue Task”, in *NYAS Natural Language, Dialog and Speech Symposium*, November, 2020.
- (KDD, '19) | **A. Sicilia**, K. Pelechrinis, and K. Goldsberry  
“DeepHoops: Evaluating Micro-Actions in Basketball Using Deep Feature Representations of Spatio-Temporal Data”, in *ACM SIGKDD*, Anchorage, AK, USA, August, 2019.
- (KDD, '18) | M. Silvis, **A. Sicilia**, and A. Labrinidis  
“PittGrub: A Frustration-Free System to Reduce Food Waste by Notifying Hungry College Students”, in *ACM SIGKDD*, London, UK, August, 2018.

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<sup>1</sup>K. Atwell and **A. Sicilia** Contributed Equally

- (*MUD*, '18) | **A. Sicilia**, A. Labrinidis, and K. Pelechrinis  
“A Holistic Evaluation of Transit Supply and Demand using Network Analysis: The TDI Framework”, in *MUD3, ACM SIGKDD, London, UK, August, 2018*.
- (*CASSIS*, '18) | **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** August 2019 - May 2020. August 2020-Present  
*Graduate Student Researcher | School of Computing and Information*

- Conducted research on machine learning theory (e.g., PAC bounds) with focus on practical applications. Topics included multiple domain problems, sample-complexity of deep networks, problems in natural language processing.

**Amazon** May 2020 - Aug 2020  
*Intern | Last Mile Machine Learning Science*

- 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.

**Toronto Blue Jays Baseball Research** May 2019 - August 2019  
*Intern | High Performance Department*

- 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

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**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

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**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

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<b>Conference Reviewer:</b>	Association for the Advancement of Artificial Intelligence (AAAI)	2020
	International Conference on Artificial Intelligence and Statistics (AISTATS)	2022
<b>Journal Reviewer:</b>	Neurocomputing	2021
	IEEE Transactions on Circuits and Systems for Video Technology	2021