Nicholas Perello

nperello@umass.edu | www.linkedin.com/in/nperello | nperello.github.io

EDUCATION

University of Massachusetts Amherst Amherst, MA
M.S. / Ph.D. in Computer Science *September 2018 - In Progress*

Transferred from M.S. to M.S./Ph.D. track in Fall 2020.

Advisors: Przemyslaw Grabowicz & Yair Zick

University of Massachusetts Amherst Amherst, MA
B.S. in Computer Science; B.S. in Mathematics *September 2014 - May 2018*

Member of Laboratory for Advanced Software Engineering Research (LASER)

Thesis: *Using Superior Resource Allocation to Reduce Cognitive Overload During Coronary Artery Bypass Surgery*
  Advisor: Dr. Leon Osterweil

AWARDS

- GEM Ph.D. Engineering & Science Fellowship recipient starting Fall 2020.
- UMass Amherst 2022-23 Distinguished Teaching Award Finalist

RESEARCH

*Equal contribution, †Equal advising
Archival Publications

- Przemyslaw A. Grabowicz, **Nicholas Perello**, and Aarshee Mishra. Marrying Fairness and Explainability in Supervised Learning. In ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT), 2022.

- Weihao Tan*, David Koleczek*, Siddhant Pradhan*, **Nicholas Perello**, Vivek Chettiar, Nan Ma, Aaslesha Rajaram, Vishal Rohra, Soundar Srinivasan, H M Sajjad Hossain†, and Yash Chandak†. On Optimizing Interventions in Shared Autonomy. In Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI), 2022.

Non-Archival Publications

- Aarshee Mishra*, **Nicholas Perello***, and Przemyslaw A. Grabowicz. Towards Fair and Explainable Supervised Learning. In ICML Workshop on Socially Responsible Machine Learning (SRML), 2021.

- Przemyslaw A. Grabowicz and **Nicholas Perello**. Resilience of Supervised Learning Algorithms to Discriminatory Poisoning of Training Data. In 7th International Conference on Computational Social Science (IC2S2), 2021.

- Weihao Tan*, David Koleczek*, Siddhant Pradhan*, **Nicholas Perello**, Vivek Chettiar, Nan Ma, Aaslesha Rajaram, Vishal Rohra, Soundar Srinivasan, H M Sajjad Hossain†, and Yash Chandak†. Intervention Aware Shared Autonomy. In ICML Workshop on Human-AI Collaboration in Sequential Decision-Making, 2021.

RESEARCH EXPERIENCE

University of Massachusetts Amherst Amherst, MA
Advisors: Przemyslaw Grabowicz & Yair Zick *December 2019 - In Progress*

- Areas of interest are in fairness and explainability in machine learning.
- Developing novel supervised learning fairness metrics and objectives utilizing machine learning explanation techniques and investigating the fairness of feature importance and counterfactual explanations.

UMass - Microsoft (MAIDAP) Collaboration UMass Amherst
Collaboration Lead: H M Sajjad Hossain *January 2020 - April 2022*

- Collaborated with the Microsoft AI Development Acceleration Program in the development and study of intervention-aware multi-agent reinforcement learning algorithms motivated by how to assist individuals with disabilities in games without ruining their user experience.

Center for Data Science   UMass Amherst
Program Heads: Brant Cheikes & Matthew Rattigan   *June 2019 - August 2019*

- Partnered with Springfield Public Schools to aid in their investigation of the diminishing college success rates of their students using exploratory data analysis and machine learning with students' academic histories.

Laboratory for Advanced Software Engineering Research   UMass Amherst
Advisor: Leon Osterweil   *December 2016 - May 2018*

- Investigated methods to reduce the risk of errors in performing complex medical procedures by assisting medical staff by utilizing in-house models and simulations developed collaboratively with domain experts.

TEACHING & MENTORING EXPERIENCE

University of Massachusetts Amehrst   Amherst, MA
*Graduate Teaching Assistant, *Instructor*   *August 2020 - In Progress*

- **CS345: Practice and Applications of Data Management** (Fall 2020)
- **CS383: Artificial Intelligence** (Spring 2021, Fall 2021, Spring 2022, Fall 2022)
- **FYS191*: New Voices in Computing*** (Fall 2022)

- **UGRAD Research Volunteer Program Ph.D. Mentor** for UMass Amherst CICS Careers. (https://www.cics.umass.edu/careers/articles/urv)
- **EMBER (Energizing Mentoring and Broadening Exposure to Research) Ph.D. Mentor)** at UMass Amherst CICS. (https://groups.cs.umass.edu/ember/)

SERVICE & OUTREACH

- **Code2040 Fellow and Senior Fellow** during the summers of 2017 and 2018.
- **Co-founder of B[U]ILT(Black, Indigenous, and Latinx in Tech)** at the UMass Amherst CICS. (https://cics-built.github.io/)
- **CARE (Committee Against Racism and for Equity) Inclusive Teaching Subcommittee Co-chair** at the UMass Amherst CICS. (https://www.cics.umass.edu/diversity/care)

INDUSTRY EXPERIENCE

Salesforce   San Francisco, CA
Software Engineering Intern   *June 2018 - August 2018*

- Full stack developer of a Service Cloud Chatbot feature that streamlined the retrieval of knowledge articles by removing the need for clients to develop code for this task for each of their deployed chatbots.

Intel Corporation   Hillsboro, OR
Software Engineering Intern   *June 2017 - August 2017*

- Given ownership of internal benchmark data analytics tool and extended it to enhance user experience, support more types of data, and present additional visualizations of data.