

Yunfei Luo

Ph.D. Student (incoming class of Fall 2023) in the Halicioğlu Data Science Institute at the University of California San Diego

☎ (413) 404 2124

@ yunfeiluo@umass.edu

🐙 github.com/yunfeiluo

in [linkedin.com/in/yunfei-luo](https://www.linkedin.com/in/yunfei-luo)

🔗 yunfeiluo.github.io

📍 93 Southpoint Drive, Amherst, MA, 01002

🎓 Education

- 09.2023 - present **Ph.D. Student in the Halicioğlu Data Science Institute**
University of California, San Diego, CA
➤ Advisor : [🔗 Tauhidur Rahman](#)
➤ Research : Applied Machine Learning, Multimodal Learning, Multitask Learning, Digital Health
- 09.2021 - 05.2023 **Master of Science in Computer Science**
GPA : 3.92/4.0 University of Massachusetts Amherst, Amherst, MA
➤ Advisor : Ina Fiterau Brostean | [🔗 Information Fusion Lab](#)
➤ Courses Taken : Advanced Machine Learning, Neural Networks, Probabilistic Graphical Models, Reinforcement Learning, Advanced Natural Language Processing, Advanced IoT
- 09.2017 - 05.2021 **Bachelor of Science in Computer Science | Bachelor of Science in Mathematics**
GPA : 3.84/4.0 University of Massachusetts Amherst, Amherst, MA
➤ Machine Learning and Computing Specializations

🌟 Fellowships, Scholarships, Awards, and Honors

- 2021 - 2023 Bay State Fellowship | Full Tuition Scholarship
- 2017 - 2021 Outstanding Undergraduate Course Assistant Award
Chancellor's Award, UMass Amherst

📖 Publications

- 2023 **Personalized Student Stress Prediction with Hierarchical Multitask Learning , Nature Communications (Nat. Commun), Journal**
- Under Review **Yunfei Luo, Iman Deznabi, Abhinav Shaw, Tauhidur Rahman, and Madalina Fiterau Brostean**
➤ Proposed a novel approach to modeling the Multimodal data, got results that outperform SOTA
➤ Modeled personalized and populational characteristics with Multitask Learning and Dynamic Clustering Method respectively
➤ Evaluated the performance under cold-start setting, to support the robustness of our method
[Multi-modal](#) [Fusion Methods](#) [Mental Health](#) [Machine Learning](#) [Neural Networks](#) [Time Series](#)
- 2023 **Multi-task Learning on Tasks with Progressive Difficulties for Natural Language Processing, Association for Computational Linguistics (ACL) / Empirical Methods in Natural Language Processing (EMNLP-Findings), Conference**
- Under Review **Yunfei Luo, Yuyang Liu, Rukai Cai**
➤ Introducing sub-tasks with progressive difficulties to improve the performance on main task. Inspired by how people learn. Experimented on text classification, sentiment analysis, and argument mining
[Natural Language Processing](#) [Multi-task Learning](#) [Machine Learning](#) [Neural Networks](#)
- 2023 **Agent Performing Autonomous Stock Trading under Good and Bad Situations, AI for Agent-Based Modelling (AI4ABM) in International Conference on Learning Representations (ICLR), Workshop**
- Under Review **Yunfei Luo, Zhangqi Duan**
➤ Researched and experimented with different reinforcement learning algorithms to train agents to perform stock trading. The methods are evaluated under scenarios with stable and non-stable market
[Natural Language Processing](#) [Multi-task Learning](#) [Machine Learning](#) [Neural Networks](#)

Professional Experience

Summer 2022 to now	Machine Learning Engineering Intern , Center for Data Science, UMass Amherst <ul style="list-style-type: none">> Developed platform for Building Segmentation and Damage Assessment based on Satellite Imagery> Integrated the Machine Learning pipeline along with User Interface for Imagery Fetching and Labelling> Worked as Research Assistant after internship <div>Computer VisionMachine LearningDisaster ResponseSoftware DevelopmentFull-Stack Development</div>
Summer 2020 to 06.2021	Data Engineering Intern , Institute for Applied Life Sciences, UMass Amherst <ul style="list-style-type: none">> Built pipelines for fMRI data preprocessing and statistical analysis> Conducted Research and Experiments with Machine Learning models for Stroke Detection : Autoencoders, CNNs, and GANs> Worked as Undergraduate Research Assistant after internship <div>Machine LearningfMRIData Preparation</div>

Ongoing Research Projects

Satellite Imagery Based Building Segmentation and Damage Estimation. Machine Learning Research Project	06.2020 - now
<ul style="list-style-type: none">> Conducted Research and Experiments with various Finetuning setting and Machine Learning techniques to support selections of final-deployed hyper-parameters and models <div>Multimodal DataSignal ProcessingMental HealthMachine LearningMultitask LearningTime Series</div>	
Student Stress Prediction. Machine Learning Research Project	01.2020 - now
<ul style="list-style-type: none">> Wrap up the manuscript, and work on applying the method to other datasets. <div>Multimodal DataSignal ProcessingMental HealthMachine LearningMultitask LearningTime Series</div>	
Learning to Drop : Regularization, Hyperparameter Tuning, and Feature Selection, All-in-One	09.2020 - 12.2022
<ul style="list-style-type: none">> Proposed a novel parametric Dropout based on Probabilistic Sampling. Searching for Conference/Workshop to submit.> Evaluate the method in various tasks : Image Classification, Matrix Missing Value Imputation of Psychological Survey Scores, Musical Genre Classification, and Wearable Sensor based Human Activity Recognition. <div>Machine LearningNeural NetworksGitHub Link of Imputation of Psychological Survey ScoresGitHub Link of Musical Genre Classification</div>	

Teaching Experience

Fall 2021 to Spring 2023	Graduate Teaching Assistant, CICS, UMass Amherst <ul style="list-style-type: none">> CS 311 Introduction to Algorithm in Fall 2021 and Spring 2023> CS 590OP Applied Numerical Optimization, and CS 108 Foundation of Data Science in Fall 2022> CS 220 Programming Methodology in Spring 2022> Held office hours, led weekly discussion sessions, graded course works, answered questions on course forum, attended weekly TA meeting for discussing the progress/improvements of the course <div>JavascriptAlgorithmsNumerical OptimizationData ScienceTeaching</div>
Spring 2020 to Spring 2021	Undergraduate Course Assistant, CICS, UMass Amherst <ul style="list-style-type: none">> CS 240 Reasoning under Uncertainty in Spring 2021, CS 311 Introduction to Algorithms in Fall 2020, CS 220 Programming Methodology in Spring 2020> Helped with weekly discussion session, graded course works, and answered questions on Piazza <div>JavascriptAlgorithmsProbabilityTeaching</div>

Professional Certifications

2022 IBM Artificial Intelligence Engineering Professional Certificate
2022 Neuroscience and Neuroimaging Specialization Certificate
2020 TensorFlow Developer Professional Certificate

“ References

Madalina Fiterau Brostean

Assistant Professor of Computer Science
University of Massachusetts Amherst
Lead of the Information Fusion Lab
@ mfiterau@cs.umass.edu

Tauhidur Rahman

Assistant Professor of Computer Science
University of California San Diego
Co-Director of MOSAIC Lab
@ trahman@ucsd.edu

Subhransu Maji

Associate Professor of Computer Science
University of Massachusetts Amherst
Co-Director of Computer Vision Lab
@ smaji@cs.umass.edu

Daniel Sheldon

Associate Professor of Computer Science
University of Massachusetts Amherst
College of Information and Computer Science
@ sheldon@cs.umass.edu

Tom Bernardin

Data Scientist
University of Massachusetts Amherst
Director of the Center for Data Science
@ tbernard@cs.umass.edu