Iulia Iordanescu
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I am passionate about using my expertise in data science and machine learning, especially deep learning and generative AI, to tackle complex challenges and create groundbreaking solutions. I thrive on pushing the limits of what's possible, turning innovative ideas into real, impactful results. Beyond just technical skills, I'm dedicated to building collaborative communities and constantly exploring new technologies to bring cutting-edge solutions to life.

Interests:
Data Science

Skills: Machine Learning, Statistics, Generative AI, Deep Learning, Forecasting, Docker

Programming skills: Python, Java, R

Languages: English, Romanian, French

Education:

Degree	BS in Informatics with concentration in Data Science
College	Manning College of Information & Computer Sciences
University	University of Massachusetts Amherst
Year	Freshman, expected graduation 2028

Relevant courses	Grade
MATH 131: Calculus I	99% (A)
INFO 150: Discrete Mathematics	100% (A)
CICS 110: Foundations of Programming (Python)	100% (A)
INFO 101: Computer Science Principles	100% (A)

Acton-Boxborough Regional High School, 2020-2024
- AP classes: Java, BC Calculus, Statistics
- G.P.A.: 4 out of 4

Honors and Awards:

- Four-year John and Abigail Adams Scholarship (Grade 12, 2024)
- ABRHS High Honor Roll (Grades 9, 10, 11, 12)
- National Honors Society Member (Grade 12, 2024)
- National Merit Scholarship Program 2024 Commended Student (Grade 12, 2024)
- Brown University College Book Award (Grade 11, 2022)
- ABRHS Volunteer Service Award (Grade 11, 2022)

Experience:

Data Scientist (volunteer) with the NASA PAAV (Pathfinding for Airspace with Autonomous Vehicles) team

May 2023 – August 2024

Developed the aviation cargo load forecasting analysis and presented results during PAAV team meetings. Paper presentation at 2024 AIAA AVIATION Forum (https://doi.org/10.2514/6.2024-4167).

Voluntary Internship Program (VIP), Aviation Systems Division, NASA

July 2022 – August 2022

Using deep learning and transfer learning I built an image classification model for wildfire detection. I also worked on path planning optimization using genetic algorithm (GA) with the goal to investigate the feasibility of using GA for planning the path that takes the minimal distance to travel to a group of (potential) fire sites.

- https://github.com/iulia-iordanescu/NASA_VIP_interns/blob/vip_user/iulia/TSP_GA001-Copy1.ipynb Genetic Algorithm for UAV Path Planning from scratch
- https://github.com/iulia-iordanescu/NASA_VIP_2022_GA - Genetic Algorithm for UAV Path Planning benchmark
- https://github.com/iulia-iordanescu/NASA_VIP_2022_transfer_learning - Image Classification using Deep Learning for Wildfire Detection

First author/presenter at Harvard Forest Ecology Symposium Academic Conference

December 2020 – March 2021

I worked on a tree mortality prediction project based on growth patterns using machine learning, under the guidance of Dr. Michael Dietze. I presented my work as a scientific poster at the Harvard Symposium (https://harvardforest.fas.harvard.edu/sites/default/files/Posters2021.pdf).

- https://github.com/iulia-iordanescu/ml101/blob/main/TreeMortalityPrediction.ipynb - Tree mortality prediction based on growth patterns using Machine Learning (Random Forests, SVM SVC, KNN, XGBoost, Feature Importance Analysis, cross-validation, AROC / AUC)

Founder of "Girls Go to Jupyter" Science Club

December 2020 - present

Founded club focused on inspiring young girls to excel in science and technology. https://github.com/iulia-iordanescu/girls_go_to_jupyter

Lead of Data Science track with ABRHS Research Club
January 2021 - present
Author and presenter of the data science workshops, and motivational speaker for members of the ABRHS Research Club.

- https://github.com/iulia-iordanescu/girls_go_to_jupyter/blob/main/Journey_into_Academic_Research/ResearchClubPresentationSummary_May42021.pdf
- https://github.com/iulia-iordanescu/girls_go_to_jupyter/blob/main/DS_Workshop_ABRHS_ResearchClub/DS_Workshop_ABRHS_ResearchClub_Outline.md
- https://github.com/iulia-iordanescu/girls_go_to_jupyter/blob/main/DS_Workshop_ABRHS_ResearchClub/ForecastingTutorial_DS_Track_ABRHS_ResearchClub.md
- https://github.com/iulia-iordanescu/girls_go_to_jupyter/blob/main/DS_DataVisualization_Tutorial_ABRHS_ResearchClub/TutorialOutline.md

Project Polynator Founder
June 2020 – present
Investigated and identified the most efficient edible urban garden plants that not only yield human consumables but also support biodiversity by providing essential resources for wild bee populations. Data analysis is work in progress.
https://sites.google.com/view/projectpolynator/home

Student Member of American Institute of Aeronautics and Astronautics (AIAA)

List of Academic Publications:

Iordanescu, I. Thipphavong, D. *Term Forecasting Analysis for US Air Cargo Load,* AIAA Aviation Forum and Exposition Conference, Las Vegas, NV, July 29 - August 2, 2024. https://doi.org/10.2514/6.2024-4167

Koolwal, A., Hussain, A., Vairavel, A., Zelinski, A., **Iordanescu, I.**, and Zheng, M. *Exploring Applications of Machine Learning for Wildfire Monitoring and Detection using Unmanned Aerial Vehicles,* Ntrs.nasa.gov, 2022. https://ntrs.nasa.gov/citations/20220016356.

Iordanescu, I., and Dietze, M. *Machine Learning Application for Tree Mortality Prediction and Tree Seed Dispersal Modelling,* Harvard Forest Ecology Symposium, 2021. https://github.com/iulia-iordanescu/girls_go_to_jupyter/blob/main/Tree_Mortality_Prediction_Using_ML_2021/IuliaIordanescu_ML_for_MortalityTreePrediction.JPG