SARA PASQUINO
Boston, MA
617- 300-9982 | pasquinosara01@gmail.com

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, SLOAN SCHOOL OF MANAGEMENT Cambridge, MA
Master's in Business Analytics, Operations Research Center 2023 – 2024

- Coursework: Machine Learning, Computer Vision, Reinforcement Learning, Optimization
- Developed a new Optimization-aware Active Learning methodology, improving current methods by 10% in accuracy (Python, Gurobi)
- Developed an image-based campus navigation tool that detects a student's location from a 360° video and provides visual directions to their destination (PyTorch)
- Built a Retrieval-Augmented Generation (RAG) chatbot incorporating NLP preprocessing and dynamic document retrieval (Keras, Gradio)
- Designed an interpretable diabetes risk-prediction model through Sparse & Optimal classification methods (Julia)

BOCCONI UNIVERSITY Milan, Italy
Bachelor of Science in Economic and Social Sciences, 110/110 cum laude 2020 – 2023

- Coursework: Statistics and Econometrics, Microeconomics, Macroeconomics, Information Theory, Quantitative Social Sciences
- Dissertation: Conducted research on challenges faced by small enterprises in integrating business analytics tools
- Associations: Rethinking Economics Bocconi; Organized seminars, discussions and wrote articles to promote pluralistic and critical economic thinking (2021)
- Exchange Program: University of Chicago, 3.8/4 GPA (Fall 2022)

TECHNICAL SKILLS

- Python, PyTorch, Keras, Gurobi, Julia/JuMP, SQL, R, Git, ArcGIS Pro, MATLAB, Stata, EViews

EXPERIENCE

DYNAMIC IDEAS LLC (Data Science Consulting) Boston, MA
Data Scientist Oct 2024 – Present

- Built procurement & supply chain network optimization models for OCP (a global fertilizer leader), supporting strategic sourcing & ecological transition efforts by optimizing cost-efficiency, renewable integration, and geographic reallocation
- Developed integer programming model for aircraft routing and crew scheduling optimization (Gurobi, Python)

MIT SLOAN | OPERATIONS RESEARCH CENTER Cambridge, MA
Research Assistant to Prof. Dimitris Bertsimas Apr 2024 – Sept 2024

- Contributed to development of a multi-modal, multi-task transformer-based neural network to predict cardiovascular diseases from EKG signals, demographics, doctor notes, and lab results
- Worked with attention-based architecture supporting early-stage experimentation for multi-condition cardiovascular risk prediction (PyTorch)

MIT SLOAN | CITY OF BOSTON Boston, MA
Data Scientist Capstone Project Intern Feb 2024 – Aug 2024

- Reduced sampling bias in 311-based rodent detection models using geospatial data through pseudo-sampling and uncertainty-aware correction methods (Python, GeoPandas, GIS)
- Enabled identification of 96 high-risk but underreported census tracts and improved inspection hit rate by 30%, supporting a more accurate and fair resource-allocation

MIT SLOAN | ANALOG DEVICES INC. (semiconductor industry leader) Boston, MA
Analytics Lab Team Member Fall 2023

- Designed client spending prediction model using Random Forests & XGBoost with Time Series Cross Validation (Python)
- Achieved prediction accuracy of 94% saving $476K in forecasting costs per year

ADDITIONAL INFORMATION

- Languages: Italian (first language), French (certified B1), Spanish (intermediate)
- Volunteer: ASNADA - Provided educational support for young migrants by teaching Italian classes (2018); CISV - Led children's group activities on cultural diversity; Travelled to Argentina and Egypt, engaging with delegations from 20 countries (2013 – 2018)
- Hobbies: passionate yogi, average but highly enthusiastic chess player/piano player/runner/skier, terrible cook