SARA PASQUINO
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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, Deep Learning, Optimization
- Developed a new Optimization-aware Active Learning methodology, improving convergence of the optimization model toward the full-information solution
- Developed a computer vision-based campus navigation tool detecting location and providing visual directions
- Designed a Retrieval-Augmented Generation (RAG) chatbot with NLP preprocessing and dynamic document retrieval
- Validated Decision Transformers for reinforcement learning, benchmarked against CQL, and tested generalizability

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, 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, SQL, R, Julia ArcGIS Pro, MATLAB, Stata, Eviews, PyTorch, Keras, Gurobi, JuMP, Git

EXPERIENCE

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

- Co-managed 5 simultaneous client projects; owned scoping, data acquisition, stakeholder engagement, delivery of models
- Built procurement & supply chain network mixed integer optimization models, allowing strategic sourcing by optimizing cost-efficiency, and geographic reallocation
- Designing a green ammonia production strategy to support the energy transition, optimizing import vs. local production, plant siting, and routing to minimize costs and enable renewable integration & ecological transition
- Contributing to production-grade integer programming pipeline for aircraft routing and crew scheduling, integrating client APIs for real-time data ingestion and automated schedule submission to operational portals

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
- Partnered with cardiologists and hospital stakeholders to shape research direction and align model integration with clinical operations and patient care practices

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

- Developed an interpretable predictive rodent-activity model leveraging geospatial and census data, debiased via pseudo-sampling and uncertainty-aware correction methods
- 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 and implemented a client spending prediction model with Random Forests and XGBoost, leveraging time-series cross-validation to capture temporal dynamics
- Achieved prediction accuracy of 94% saving $476K in forecasting costs per year

ADDITIONAL INFORMATION

- Languages: Italian (first language), French (certified B1), Spanish (intermediate)
- Volunteer: Educational support for young migrants | International youth delegate in Argentina and Egypt
- Hobbies: passionate yogi, average but highly enthusiastic chess player/piano player/runner/skier, terrible cook