Danny D'Agostino

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LinkedIn: **in**   ResearchGate: **R**   Google Scholar: **g**

Experience

Research Intern
Huawei Ireland Research Centre
Sep 2020 - Mar 2021, Dublin IE

- Performed research in explainable AI for smart networks.
- Developed a multi-objective optimization framework for time series clustering.

PhD Researcher
University of Rome 'La Sapienza' / Italian National Research Council
Nov 2017 - May 2021, Rome IT

- Developed a new Lipschitzian global optimization algorithm for black-box optimization.
- Worked on uncertainty quantification and dimensionality reduction for simulation-based design optimization.
- Performed data-driven research of highly nonlinear turbulent flows.
- Built a multi-step Bayesian recurrent neural network for ship motion time series forecasting.

School of Artificial Intelligence
Pi School
Oct 2019 - Dec 2019, Rome IT

Worked on a project presented by a real client (OCTO telematics), developing AI-based solutions.

Advisor: Dr. Sébastien Bratières

Research Intern
Italian National Research Council
Oct 2016 - Oct 2017, Rome IT

Development and application of nonlinear dimensionality reduction machine learning and deep learning models for

simulation-based design optimization.

Education

PhD in Operations Research
University of Rome 'La Sapienza'
Nov 2017 - May 2021, Rome IT

Thesis: A Lipschitzian Global Optimization Algorithm and Machine Learning for Fluid Dynamics

Advisors: Prof. Stefano Lucidi, Dr. Matteo Diez

Master's Degree in Engineering Management
University of Rome 'La Sapienza'
Oct 2014 - Mar 2017, Rome IT

Curriculum: Operations Research and Data Science

Thesis: Nonlinear Dimensionality Reduction Models for Simulation-Based Design Optimization

Bachelor's Degree in Engineering Management
University of Rome 'La Sapienza'
Oct 2011 - Sep 2014, Rome IT
Thesis: A Combinatorial Optimization Model for the Hub Location Problem
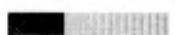
Computer Skills
Programming Languages

Python	▰▰▰▰		Matlab	▰▰▰		C++	▰	
Java	▰▰▰		R	▰▰▰		SQL	▰▰	

Big data Frameworks

Spark	▰▰▰		Hadoop	▰▰

Mathematical Programming

AMPL	▰▰▰		Pyomo	▰▰

Deep Learning

Keras	▰▰▰		Tensorflow	▰▰▰		PyTorch	▰

Cloud Computing

AWS	▰▰

Additional Information
Certifications
- **'Data Science and Engineering with Apache Spark'**: certification released by the University of California 'Berkeley' through the online platform edX.
- **'Introduction to R for Data Science'**: certification released by Microsoft through the online platform edX.
- **'Programming in R for Data Science"**: certification released by Microsoft through the online platform edX.

Languages
- Italian: **Mothertongue**
- English: **C1**

Memberships
Member of the Italian Association of Machine Learning IAML.

Research Profile
Number of publications: 10
Citations: 93
H-index: 6

Hobbies
- Playing electric guitar
- Cooking
- Playing football
- Farming
- Value investing

Publications

- **D'Agostino**, **Danny**, Andrea Serani, Frederick Stern, and Matteo Diez. "Recurrent-type neural networks for real-time short-term prediction of ship motions in high sea state." arXiv preprint arXiv:2105.13102 (2021).

- **D'Agostino**, **Danny**, Andrea Serani, and Matteo Diez. "Design-space assessment and dimensionality reduction: An off-line method for shape reparameterization in simulation-based optimization." Ocean Engineering 197 (2020): 106852.

- Serani, Andrea, **Danny D'Agostino**, Emilio Fortunato Campana, and Matteo Diez. "Assessing the interplay of shape and physical parameters by unsupervised nonlinear dimensionality reduction methods." Journal of Ship Research 64, no. 04 (2020): 313-327.

- **D'Agostino**, **Danny**, Matthieu Andre, Philippe Bardet, Andrea Serani, Mario Felli and Matteo Diez. "Observing PIV Measurements Through the Lens of Data Clustering."In Proceedings of the 33rd Symposium on Naval Hydrodynamics, Osaka, Japan. 2020.

- Serani, Andrea, Danilo Durante, Matteo Diez, **Danny D'Agostino**, Simon Clement, Joseph Badra, Matthieu Andre, Masayuki Habukawa, and Philippe Bardet. "PIV data clustering of a buoyant jet in a stratified environment." In AIAA Scitech 2019 Forum, p. 1830. 2019.

- **D'Agostino**, **Danny**, Andrea Serani, and Matteo Diez. "On the combined effect of design-space dimensionality reduction and optimization methods on shape optimization efficiency." In 2018 Multidisciplinary Analysis and Optimization Conference, p. 4058. 2018.

- **D'Agostino**, **Danny**, Andrea Serani, Emilio F. Campana, and Matteo Diez. "Deep autoencoder for off-line design-space dimensionality reduction in shape optimization." In 2018 AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, p. 1648. 2018.

- **D'Agostino**, **Danny**, Andrea Serani, Emilio F. Campana, and Matteo Diez. "Assessing the interplay of shape and physical parameters by nonlinear dimensionality reduction methods." In Proceedings of the 32nd Symposium on Naval Hydrodynamics, Hamburg, Germany. 2018.

- **D'Agostino**, **Danny**, Andrea Serani, Emilio Fortunato Campana, and Matteo Diez. "Augmented design-space exploration by nonlinear dimensionality reduction methods." In International Conference on Machine Learning, Optimization, and Data Science, pp. 154-165. Springer, Cham, 2018.

- **D'Agostino**, **Danny**, Andrea Serani, Emilio F. Campana, and Matteo Diez. "Nonlinear methods for design-space dimensionality reduction in shape optimization." In International Workshop on Machine Learning, Optimization, and Big Data, pp. 121-132. Springer, Cham, 2017.

Citizenship
Italian