Guglielmo Gattiglio

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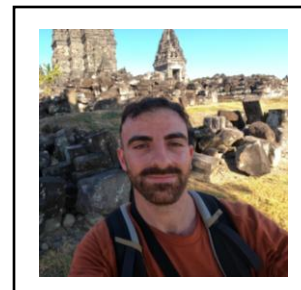
Visit my website (guglielmogattiglio.com) for a
project portfolio, blog articles and latest research

EDUCATION

University of Warwick, Department of Statistics   Coventry, UK

- **PhD in Machine Learning** – finalist (Prof. Tamborrino M. and Grigoryeva L.)   Oct 2021 – Early 2025
- Research: Random Neural Networks, Advanced Machine Learning, Gaussian Processes, Uncertainty Quantification, Distributed Computing, Generative Modeling for Time Series, Multivariate Forecasting, Bayesian Inference
- **Publications**:
  - **NeurIPS 2024.** RandNet-Parareal, a time-parallel PDE solver using Random Neural Networks (2024). GG, TM, GL. **up to x22 more efficient** than prior approaches (faster execution)
  - Under review. Nearest Neighbors GParareal: Improving Scalability of Gaussian Processes for Parallel-in-Time Solvers (2024). Authors: GG, TM, GL.
  - Upcoming. ProbParareal: A Probabilistic Parallel-in-Time Solver for Differential Equations. GG, TM, GL.

Bocconi University   Milan, Italy
- Master in Data Science and Business Analytics – major in Data Science   Sep 2019 – Jul 2021
- Final **GPA: 29.7/30**. Graduation mark: **110/110 cum laude**
- Relevant Coursework: Advanced Statistics, Stochastic Processes, Optimization, Statistical Machine Learning, Deep Learning, Natural Language Processing, Computer Vision
- Final Thesis: *Tempered Stochastic Search of Bayesian CART Models*

Bocconi University   Milan, Italy
- Bachelor in Economics, Management and Computer Science   Sep 2016 – Jul 2019
- Final **GPA: 29.8/30**. Graduation mark: **110/110 cum laude**
- Relevant Coursework: Economic Theory, Statistics, Machine Learning, Algorithms, Python Programming
- Final Thesis: *Machine Learning for Imbalanced Data. An application to Customer Complaints*

Carnegie Mellon University   Pittsburgh, PA, USA
- Exchange University. Semester GPA: 3.75/4   Jan – May 2019
- Exchange Coursework: Modern Data Management, Advanced Statistics for Data Analysis, Data Mining

RESEARCH AND WORK EXPERIENCE

Warwick Artificial Intelligence – Student association, University of Warwick   Coventry, UK
Project Lead   2023-24

I lead a student project organized in collaboration with industry partners Andy Pardoe and WisdomWorks, mentoring a team of junior students with diverse background: technical (bachelor statistics), computer science, and business.

Task: develop a high-end recommender engine for the housing market combining multimodal data (tabular, image, text)

Key technologies:
- **Data collection:** Python-based web-scraping and a mix of manual tagging and automatic label generation
- **NLP & LLMs:** used transformer-based models for data augmentation and feature extraction from text property descriptions. Embeddings for retrieval. We also explored automatic property description generation from images
- **Computer Vision:** image segmentation and CNN-based transfer learning for feature extraction and classification

Outcome: significant data automation and improved property retrieval. Considered for production implementation

Goldman Sachs   Warsaw, Poland
Summer Analyst in the Technology Division – Software Developer   Jul – Sep 2018

Developed innovative and effective backend infrastructure to improve ease of creation of financial products.
Main technologies used: Python and Java.

CERTIFICATIONS & AWARDS

Certifications (selected)

NVIDIA, Accelerating CUDA C Applications with Multiple GPUs (Jun 2024)

NVIDIA, Fundamentals of Accelerated Computing with CUDA Python (Feb 2024)

DeepLearning.AI, TensorFlow Developer Specialization (Jan 2025)

Awards

Code reproducibility award at the Third BioInference Conference, held at the University of Warwick

Travel funding award from the 38th Conference on Neural Information Processing Systems (**NeurIPS 2024)**

RELEVANT SKILLS

Languages

Italian - Native speaker

English – Fluent, level C2 (IELTS)

French – Level B1

German – Actively learning

Data Science & Programming

Proficient: Python programming (NumPy, Pandas, Scikit-learn), deep learning (JAX, PyTorch, TensorFlow & Keras) SQL, Git/GitHub, LaTeX, NLP, Computer Vision, advanced ML

Advanced: Data Visualization (Tableau, KNIME), Hugging Face Transformers, R

Intermediate: Java, C/C++, Matlab, Docker

Experience with Cloud Computing (AWS, GCP), software deployment, Linux servers, Slurm workload manager, Javascript, webservers (Python Flask, NGINX), and backend development. Experience with robotics and Arduino.

Teamwork

I firmly believe that teamwork, collaboration and sharing of ideas are as important as being able to work independently and self-responsibly. I am self-driven, hard-working and able to prioritize. In the workplace, I am sociable and friendly.

Leadership

I am an experienced summer UK mountain guide (3+ years practice, certification pending) with knowledge of how to safely lead groups of beginners and advanced users in all weather and terrain conditions.
Key skills: group management, decision making, conflict mitigation, emergency resolution, first aid.

TEACHING (selected)

University of Warwick – Department of Statistics - Senior Graduate Teaching Assistant
- ST346: *Generalized Linear Models for Regression and Classification*. Bachelor level (2024)
- ST420: *Statistical Learning and Big Data*. Master level (2023)

University of Warwick – Warwick Business School (WBS) - Senior Graduate Teaching Assistant
- IB9CS: *Big Data Analytics*. Master level (2022)

ABOUT ME

Passionate about problem solving, regardless of the discipline: math competitions, programming hackathons, complex data science projects, robotics applications. I am curious, I like to explore different fields of knowledge and ask myself scientific questions about the things I read or that I discover through my hobbies and interests.

Interests. Self-improvement, machine learning, hardware electronics, statistics, psychology, hiking in nature, rock-climbing, history and technology of medieval metallurgy, bow-making.

Hobbies and sports. I enjoy running, skiing, cycling, and cooking. In the past, I did Judo for 5 years at a competitive level.