Daniele Zago

dedzago.github.io | DedZago | zagodaniele.9@gmail.com | 0000-0003-0778-7099

Date of birth: 9 May 1996 | Location: Padova, Italy

Work Experience

Data Scientist Oct 2024 – Present
Optit S.r.l. *Bologna, Italy*
- Research and development of clustering algorithms for multifrequency periodic vehicle routing problems
- Development of anomaly detection and forecasting models for energy demand

Statistical consultant Jul 2023 – Oct 2023
Expin S.r.l. (while affiliated to University of Padua) *Padua, Italy*
- Developed a sequential monitoring system for anomaly detection in vibrating string strain gauges
- Developed a novel algorithm for optimal alarm threshold selection using stochastic optimization techniques

Teaching assistant Oct 2022 – Dec 2022
Department of Developmental Psychology and Socialisation, University of Padua *Padua, Italy*
- Lectures on factor models and analysis of questionnaires, laboratories on R programming

Academic tutor Sep 2017 – Jan 2019
Department of Statistical Sciences, University of Padua (funded by Mille e una Lode awards) *Padua, Italy*
- Calculus lessons for undergraduate students, providing guidance on problems and reinforcing key concepts.

Education

University of Padua Padua, Italy
Ph.D. in Statistical Sciences *2021 – 2024*
- Advisor: prof. Giovanna Capizzi; Co-advisor: prof. Peihua Qiu
- Research topic(s): **online outlier detection** and **stochastic optimization**
- Thesis: "*Advanced statistical process monitoring using simulation-based algorithms*"

University of Florida Gainesville, FL, USA
Visiting research scholar, supervisor: Prof. Peihua Qiu *Jan 2023 – Dec 2023*

INFN Bertinoro, Italy
Thirteenth INFN International School on Efficient Scientific Computing *Oct 2022*
- Efficient C++ programming
- GPU programming with CUDA

University of Padua Padua, Italy
M.Sc. in Statistical Sciences *2019 – 2021*
- Final grade: **110/110 cum Laude**, GPA: **29.5/30**
- Thesis topic(s): **Bayesian nonparametric mixture models**
- Thesis: "*Bayesian nonparametric multiscale mixture models via Hilbert curve partitioning*"

University of Perugia Perugia, Italy
Summer school in Mathematics *Jul 2020*

University of Padua Padua, Italy
B.Sc. in Statistics for Technology and Sciences *2016 – 2019*
- Final grade: **110/110 cum Laude**, GPA: **29.2/30**
- Thesis topic(s): **applied Bayesian modelling**
- Thesis: "*The addition of data to opinion: a comparison of Bayesian models*"

Awards

2025	ENBIS Knowledge Fund, ENBIS 2025 conference	*Piraeus, Greece*
2022	Young Travel Award, ISBA 2022 conference	*Montréal, Canada*
2018	Mille e una Lode Award 2018 *(top 3% of students)*	*University of Padua*
2017	Mille e una Lode Award 2017 *(top 3% of students)*	*University of Padua*

Conference Presentations

Nov 2025 **Invited seminar**. *University of Padua* *Padua, Italy*
Efficient algorithms for control limit calibration

Sep 2025 **Invited talk**. *ENBIS-25 Conference* *Piraeus, Greece*
Optimal constrained design of control charts using stochastic approximations

Oct 2023 **Invited talk**. *2023 INFORMS Annual Meeting* *Phoenix, AZ, USA*
Optimal constrained design of control charts using stochastic approximations

Sep 2022 **Poster presentation**. *Statistical methods and models for complex data* *Padova, Italy*
Profile monitoring based on adaptive parameter learning

Jun 2022 **Poster presentation**. *2022 ISBA World meeting* *Montréal, Canada*
Bayesian nonparametric multiscale mixture models via Hilbert-curve partitioning

Publications

Working papers

Zago, D., Capizzi, G., and Colosimo, B. M. Statistical Process Monitoring of Isolated and Persistent Defects in Complex Geometrical Shapes. Under review in *Quality Technology and Quantitative Management*.

Journal articles

Zago, D. (2025). StatisticalProcessMonitoring.Jl: A General Framework for Statistical Process Monitoring in Julia. *Journal of Statistical Software* 113, 1–45. doi: 10.18637/jss.v113.i07

Zago, D., and Capizzi, G. (2024). Alternative Parameter Learning Schemes for Monitoring Process Stability. *Quality Engineering* 36, 560–574. doi: 10.1080/08982112.2023.2253891

Zago, D., Capizzi, G., and Qiu, P. (2024). Optimal Constrained Design of Control Charts Using Stochastic Approximations. *Journal of Quality Technology* 56, 257–275. doi: 10.1080/00224065.2024.2323585

Zago, D., Capizzi, G., and Qiu, P. (2025). An Improved Bisection-Type Algorithm for Control Chart Calibration. *Statistics and Computing* 35, 81. doi: 10.1007/s11222-025-10609-7

Zago, D., Tian, Z., Capizzi, G., and Qiu, P. (2025). A General Framework for Monitoring Mixed Data. *Journal of Quality Technology* 57, 282–296. doi: 10.1080/00224065.2025.2512164

Skills

Programming	R, Julia, Python, C++, Rust, SQL, Stan, bash, SAS
Tools	git, Microsoft Office
Languages	Italian (native), English (fluent, C2), German (moderate), Spanish (moderate)

References are available upon request.