



# Pier Luigi Segatto, Ph.D.

Data Scientist

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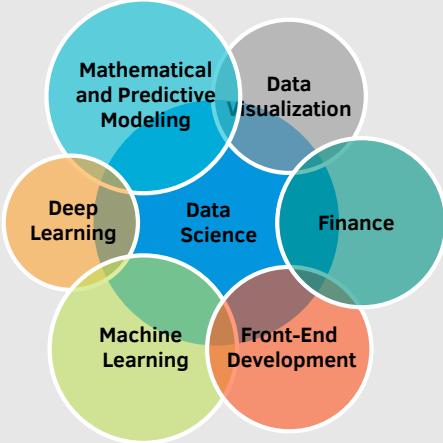
Lausanne, Vaud, Switzerland

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Pierluigi-Segatto

pierluigisegatto

## Technical Skills



## Programming Skills

- Python • Matlab • R • C++

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- Unix • Microsoft Office • SQL

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- L<sup>A</sup>T<sub>E</sub>X • Docker • Git

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## Research

- 2016 Aug - Present **Doctor of Philosophy- Ph.D** EPFL (Switzerland)
- Thesis Title: Modeling of Stream Metabolism from Reach-scale to the Scale of Entire River Networks.
  - Gained **data science methodology** and developed strong **problem solving skills**: from business understanding to analytical approach; from data mining to modeling, evaluation, and deployment.
  - Performed **numerical analysis** and designed front-end spatio-temporal models for **time series prediction** and **spatial extrapolation** of key variables for climate change.
  - Gained expertise in **model optimization** and **parameter estimation**, particularly in the Bayesian framework using Markov chains Montecarlo algorithms.
  - Created **machine learning** based models for time series and distributed data regression.
  - Developed **statistical analysis** of error propagation in global-scale models.
  - Results **published** in prestigious peer-reviewed journals and **presented** in international conferences.

## Education

- 2013 Sep - 2016 Jul **MSc, Environmental Engineering** UNIPD (Italy)
- Final Grade: 110/110 cum Laude.
  - Thesis Title: Flow and transport modelling in the Bruntland Burn catchment (UK).
- 2009 Sep - 2013 Jul **BSE, Environmental Engineering** UNIPD (Italy)
- Final Grade: 105/110.
  - Thesis Title: Limit states and structural analysis of a detached house.

## Experience

- 2016 Aug - 2020 Nov **Scientific Researcher** EPFL (Switzerland)
- Developed process-based models for temporal prediction of ecosystem metabolism and biomass evolution in streams and rivers.
  - Developed ML solutions for spatio-temporal prediction of temperature, active radiation, and ecosystem metabolism patterns.
  - Investigated climate change effects on stream-networks.
- 2020 Jan - 2020 Aug **Visiting Research Scientist** UNIVE (Italy)
- Worked in collaboration with experienced academic modelers and strengthened my skills in ML.
- 2015 Sep - 2016 Aug **Research Assistant** EPFL (Switzerland)
- Developed hydrological and transport models for the quantification of discharge and travel time distributions of solutes and pollutants.
- 2008 Jun - 2009 Sep **Intern, R&D selling optimization** Fluorital S.r.l. (Italy)
- Dealt with R&D of new manufactures decorative products for various industrial uses along with the process of selling optimization.

# Pier Luigi Segatto

## Languages

- French (B1)
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- English (C1)
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- Italian (C2)
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## Certificates

- Python for Financial Analysis and Algorithmic Trading (Udemy, Jan 2021)
- Financial Markets (Yale University, Jan 2021)
- Machine Learning with Python (IBM, Jan 2021)
- Data Visualization with Python (IBM, Jan 2021)
- Data Analysis with Python (IBM, Jan 2021)
- Databases and SQL for Data Science (IBM, Jan 2021)
- Python for Data Science and AI (IBM, Jan 2021)
- Data Science Methodology (IBM, Jan 2021)
- Tools for Data Science (IBM, Jan 2021)
- What is Data Science? (IBM, Jan 2021)
- Python (Pirple, Nov 2020)

## Teaching

2018 -	<b>Teaching Assistant</b>	EPFL (Switzerland)
2019	<ul style="list-style-type: none"><li>• Mathematics, Linear Algebra, Physics.</li></ul>	

## Accomplishments and Scholarships

2020 Nov	<b>FNSNF Swiss National Science Foundation</b>	
	<ul style="list-style-type: none"><li>• SNF mobility grant winner.</li></ul>	
2015-2008	<b>Veneto Regional Scholarship</b>	
	<ul style="list-style-type: none"><li>• Scholarship for students with an outstanding curriculum.</li></ul>	
2015	<b>Student Excellence "Ivano Pastore" grant</b>	
	<ul style="list-style-type: none"><li>• Won the Student Excellence "Ivano Pastore" grant for the best results in the Bachelor program among students of class 2008-2013.</li></ul>	

## Publications

- Horgby Åsa, Segatto Pier Luigi et al. "*Unexpected large evasion fluxes of carbon dioxide from turbulent streams draining the world's mountains.*" Nature communications 10.1 (2019): 1-9.
- Segatto Pier Luigi, Tom J. Battin, and Enrico Bertuzzo. "*Modeling the coupled dynamics of stream metabolism and microbial biomass.*" Limnology and Oceanography (2020).
- Pier Luigi Segatto, Tom J Battin, and Enrico Bertuzzo. "*Data-driven machine learning unveils emerging properties of metabolic regimes at the scale of an entire stream network.*" Manuscript submitted for publication in Ecosystems, 2020b.
- Pier Luigi Segatto, Tom J Battin, and Enrico Bertuzzo. "*A network-scale modeling framework for stream metabolism, ecosystem efficiency and their response to climate change*". Manuscript submitted for publication in Water Resources Research, 2020b.

## About me

6 years of experience as a mathematical modeler, data scientist, quantitative analyst, data analyst, and programmer.

During my studies, I have developed both a technical and financial background. I have intensely been involved in problem-solving situations and engineering tasks. I was involved in the development of models simulating entire ecosystem dynamics at a multiscale level, using spatially explicit approaches and machine learning with the explicit goal of making predictions on future changes of key variables. I have constantly been dealing with very large data sets at a global scale and their processing in different programming languages. Moreover, I deeply strengthened my communication skills by making clear and understandable visualizations of datasets and presenting them to heterogeneous audiences.

I am passionate about machine learning and I made it a core asset of my Ph.D. dissertation. Moreover, I have a keen interest in finance, quantitative trading, and the direct application of data science and machine learning to this topic. I took many courses about finance, global business environment, risk analysis, operations and economics, etc., both at EPFL and on independent platforms. I am highly motivated in pursuing this path.