Alberto **Bassi**

PHD CANDIDATE IN COMPUTER SCIENCE · PHYSICS GRADUATE

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Experience

ETH - EAWAG (Swiss Federal Institute of Aquatic Science and Technology)   *Dübendorf, Switzerland*

PHD CANDIDATE   *Oct. 2022 - PRESENT*

- **Project**: Feature Extraction From High Dimensional Datasets Using Machine and Statistical Learning

ETH Juniors - HHM AG   *Aarau, Switzerland*

EXTERNAL CONSULTANT   *Aug. 2023 - Oct. 2023*

- **Project**: Reinforcement Learning applications for various purposes related to construction engineering.

University of Reading   *Reading, United Kingdom*

ERASMUS+ TRAINEESHIP   *Apr. 2022 -Jun. 2022*

- **Project**: Reconstruction and Parameter Estimation of Dynamical Systems using Neural Networks

Education

ETH (Swiss Federal Institute of Technology)   *Zurich, Switzerland*

PHD IN COMPUTER SCIENCE   *Oct. 2022 - PRESENT*

- **Thesis (tentative)**: Feature Extraction From High Dimensional Datasets Using Machine and Statistical Learning
- **Supervisors**: Fernando Perez Cruz and Carlo Albert
- **Grade point average**: 5.5/6.0
- **Main courses**: Probabilistic Artificial Intelligence and Advanced Algorithms (Fall 2023)

University of Padova   *Padova, Italy*

MASTER OF SCIENCE IN PHYSICS   *Oct. 2020 -Sept. 2022*

- **Thesis**: Reconstruction and Parameter Estimation of Dynamical Systems using Neural Networks
- **Supervisors**: Valerio Lucarini, Amos Maritan and Varun Ojha
- **Final grade**: 110/110 with Honors, *Grade point average*: 29.56/30.0
- **Main courses**: Statistical Mechanics, Physics of Complex Systems, Quantum Information

Galilean School of Higher Education   *Padova, Italy*

HONORS COLLEGE DIPLOMA - SECOND LEVEL MASTER   *Oct. 2017 - PRESENT*

- **Thesis (tentative)**: Learning Catchment Features with Autoencoders
- **Supervisor**: Carlo Albert
- **Grade point average**: 29.89/30.0
- **Description**: Five years full scholarship entirely based on merit. Selected among the 14 STEM best students out of more than 300 applicants in a national contest based on two written and two oral tests in Physics and Mathematics. Accommodation in a multidisciplinary environment, food, a bonus for books and for mobility abroad. Mandatory attendance of 12 additional courses of 4 ECTS each in five years, on time graduation and maintenance of a GPA greater than 27/30.
- **Main courses**: Complements of Analysis, Measure Theory, Probabilistic Methods in Data Analysis, Advanced Electromagnetism

Leopold-Franzens University   *Innsbruck, Austria*

ERASMUS+   *Oct. 2021 -Apr. 2022*

- **Grade point average**: 1.0/1.0
- **Main courses**: General Relativity and Computational Statistical Mechanics

University of Padova   *Padova, Italy*

BACHELOR OF SCIENCE IN PHYSICS   *Oct. 2017 -Sept. 2020*

- **Thesis**: The Tolman-Oppenheimer-Volkoff equations in unified models of dark matter and dark energy
- **Supervisors**: Sabino Matarrese and Daniele Bertacca
- **Final grade**: 110/110 with Honors, *Grade point average*: 28.90/30.0

Honors & Awards

2023	**Prize for best poster (BayesComp 2023),** 8 posters awarded among more than 100	*Levi, Finland*
2023	**Travel award (BayesComp 2023),** Partial refund of travel expenses	*Levi, Finland*
2022	**Prize for best graduates at Masters,** BCC Basiliano	*Basiliano, Italy*
2020	**Prize for best graduates at Bachelors,** BCC Basiliano	*Basiliano, Italy*
2017	**5 years full Scholarship,** Galilean School of Higher Education - acceptance rate 4.3 %	*Padova, Italy*
2017	**Italian Physics Olympiad,** Silver Medal (in the top ten)	*Senigallia, Italy*

Skills

Hard	Problem solving, Machine Learning, Optimization, Reinforcement Learning, Gaussian Processes, Bayesian Networks, Monte Carlo methods, 3d thinking, shared Github projects, Pytorch
Soft	Fast learner, willingness to learn, communication, teamwork, active listening, presentation,flexibility, sense of humor, learning new languages, sports, mountaineering, cooking
Programming	Python, C++, Julia, Fortran, R, LaTeX, Git
Languages	Italian (Native), English (C2), German (C1), French (A2)

Conferences, Summer Schools & Cetificates

Aug. 2023	**Mediterranean Machine Learning Summer School,** Google DeepMind	*Thessaloniki, Greece*
Mar. 2023	**BayesComp 2023,** ISBA	*Levi, Finland*
Sept. 2022	**Workshop: Building Pandemic Models on the Fly,** Cecam - EPFL	*Lausanne, Switzerland*
Aug. 2022	**Machine Learning for Healthcare Summer School,** University of Oxford - AI for Global Goals	*Remote*
Dec. 2021	**IELTS Academic,** 8.0 (L 8.5 R 8.5 W 7.0 S7.5)	*Innsbruck, Austria*

Teaching

June 2023	**Teaching Assistant,** EAWAG Summer School on Hydrological Modelling	*Lucerne, Switzerland*
May 2023	**Invited Seminar on BNN and HMC,** Università della Svizzera italiana	*Lugano, Switzerland*