Pietro **Sillano**

Msc. Physics Student

Turin, Italy

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Education

MSc. in Physics of Complex Systems — *Turin, Italy*

University of Turin — *Oct. 2020 - Present*

GPA = 4.0

BSc. in Physics Engineering — *Turin, Italy*

Polytechnic of Turin — *Oct. 2017 - Oct. 2020*

Bachelor Thesis: "Modelling Competing Endogenous RNA Networks" with A. Pagnani

Skills

Proficiency	• **Python**: Numpy, Scipy, Pandas, Matplotlib • Machine Learning and Deep Learning: Scikit-learn, Keras, PyTorch
Basic proficiency	• C,Julia,Fortran
Operative knowledge	• Linux, git, Latex
Languages	• Italian: Native • English: IELTS Academic Test - 6.5 (2018)

Experience

Visiting Research Student — *Trieste, Italy*

SISSA — *October 2022 - Present*

I am working on my Master's thesis at SISSA with A. Rosa on Models and Simulations of confined Chromatin

Visiting Research Student — *Torun, Poland*

Nicolaus Copernicus University — *July 2021*

Collaborated with History Department to design a modern approach of analyzing Latin text exploiting **Natural Language Processing** methods (based on **BERT**).

Member — *Turin, Italy*

Machine Learning Journal Club — *2021 – Present*

- It's a **student organization** which aims to explore the most recent applications of AI, along with the creation of open source content
- I work in designing and developing several **Machine Learning** projects involving Medical AI and Brain Computer Interfaces
- Co-supervising a project on **Neurofeedback** based on OpenBCI devices. In charge of the EEG data acquisition and data analysis.

Teaching Assistant — *Turin, Italy*

University of Turin — *2021 – Present*

- Physics Laboratory II - 50 hours
- Introduction to Scientific Programming - 50 hours
- Generation and Evaluation of introductory math exams - 50 hours

Member — *Turin, Italy*

Team Policumbent (Polytechnic of Turin) — *2019*

It's a student team which aims to design and build from scratch a recumbent-like bike, join an international competition (**WHPSC** race) trying to break the human-powered land speed record. I worked on developing and testing a Python library for the bike **telemetry system**.

Extracurricular

Relevant Projects

Sindy Pendulum — *Fall 2021*

Recover minimal physics dynamical models from high dimensional data

- Identification of **parsimonious dynamical models** from high dimensional data with Autoencoder neural network
- Improved my knowledge about build a neural network architecture from scratch and PyTorch framework

Relevant Coursework

- Statistical Mechanics
- Stochastic Processes
- Numerical Algorithm for Physics
- Complex Systems in Biology
- Complex Systems for Neuroscience
- Statistical Biophysics
- Neural Network
- Data Mining and Statistical Learning
- Networks science