

Fabio Tonini

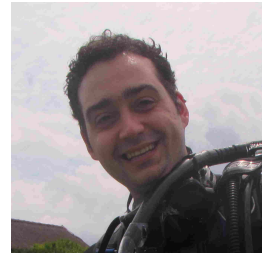
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EDUCATION

- **Ph.D. in Mathematics**, 70/70 *with highest honors* at *Scuola Normale Superiore*, Pisa, Italy 2013
- **Master's Degree in Mathematics**, 110/110 *with highest honors* at *University of Pisa*, Italy 2008

PROJECTS

- **Extremals** [↗](#) (Python) Python module consisting in a toolset to inspect pandas dataframes looking for "extremals rows", i.e. rows "numerically different" from others. This may help filtering a dataframe from anomalous numerical data or, on the contrary, highlight exceptional rows from common ones. The key ingredients are the notion of relative weighted distance (for a series) and total weighted distance (for a dataframe), which are the measures used to judge when a given row is extremal. Install the library via pip and try it.
- **Commu** [↗](#) (Python) Graphical interface tool to easily draw mathematical diagrams in \LaTeX . Those diagrams are used in almost all areas of mathematics, like algebraic geometry, algebraic topology, logic, etc. With Commu, you have a graphical interface that can export ready-to-use \LaTeX code using the PGF/TikZ library. You can save your diagram, edit them afterwards and use templates.
- **Minesweeping** [↗](#) (Python) Terminal version of the classic game. It uses the curses library to draw a board and to interact with the player. You can choose the board size, number of bombs, restart the game, ask for a hint, lock cells.
- **Playradio** [↗](#) (Bash) Listen or record webradios. It uses mplayer and can be run directly on the terminal or with a graphical user interface (require zenity). Via a configuration file it is possible to add and remove webradios.

SKILLS

- Python expert, SQL expert, Bash
- Pandas, Numpy, Scikit-learn, Sphinx, Git, \LaTeX , ssh, Linux
- Mathematics (Statistics, Probability, Linear Algebra, Topology, Abstract Algebra)
- Quick learning, Analytical method, Great communication, Problem solving, Independent thinking

WORK EXPERIENCE

- **Software developer** at *Youtube - Google*, Zurich, Switzerland 2022 -
- **Researcher in Mathematics** at *University of Florence*, Italy 2018 - 2021
- **Researcher in Mathematics** at *Freie University*, Berlin, Germany 2015 - 2018
- **Researcher in Mathematics** at *Humboldt University*, Berlin, Germany 2013 - 2015

RESEARCH EXPERIENCE

- Published 15 research articles in top peer-reviewed mathematical journals. (See [Publications](#) [↗](#)). The main area of investigation is algebraic geometry, a modern fusion between abstract algebra and classical geometry.
- Delivered 16 research talks at conferences and institutions in various countries, including: Italy, France, Germany, Sweden, Hong Kong, India, Japan, Australia.
- Professor for several courses: Introductory math (Departments of Natural and Pharmaceutical sciences, Florence), Advanced Geometry (Math Department, Florence), Algebraic Geometry (Scuola Normale Superiore, Pisa).

AWARDS

- Two year visiting position at Centro De Giorgi in Pisa 2018
- One year scholarship at Scuola Normale Superiore of Pisa 2012
- Student of Scuola Normale Superiore of Pisa with final diploma (6 awarded across Italy in 2006) 2006 - 2008
- Indam scholarship during my undergraduate studies (50 awarded across Italy in 2003) 2003 - 2006

HOBBIES AND INTERESTS

Scuba diving and photography, especially together as underwater photography. I actively participate in photography contests. I ranked 1st in "52nd Natale Subacqueo di Amalfi" and "12th Trofeo Mosti Luciano" (category wide). Some videos: [South Africa](#) [↗](#), [Mexico](#) [↗](#). My instagram account: [@jacobbb84](#) [↗](#)