Fabio Tonini
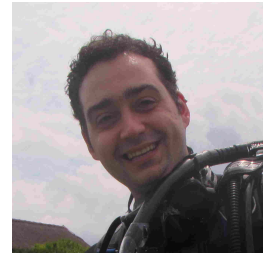
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WORK EXPERIENCE

- **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

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

SKILLS

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

PERSONAL 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 LaTeXcode 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.

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. Besides being a hobby, it is actually a competitive sport: I regularly train with camera and scuba gears and participate to live competitions. 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 ↗