

Gabriele Berton

PhD Student in Deep Learning & Computer Vision



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PROFILE

I'm a PhD Student in Deep Learning & Computer Vision, and I'm really excited about the whole field of research and its possible applications. Although I'm skeptical about deep learning leading to any kind of AGI, I believe that it can help us to improve our lives and prevent countless deaths (through AV and healthcare applications).

I'm excited to do an internship because I believe it can help me to acquire new points of view on these interesting topics, and I'm sure that I can make a significant contribution anywhere I work.

EMPLOYMENT & EDUCATION

PhD Student | Polytechnic University of Turin | 2021 – Present

- Researching visual geo-localization methods
- Publishing in top-tier conferences
- Developing a large-scale (1B+ images) retrieval software
- Learning about a number of topics in computer vision which increase the accuracy and scalability of such software, i.e. image (instance) segmentation, classification, approximate nearest neighbor search and more.

Master thesis co-supervisor | Polytechnic University of Turin | 2020 – Present

- A Study on Deep Learning Approaches for Visual Geo-localization, Riccardo Mereu
- Deep learning for Sequence-based Visual Geo-localization, Gabriele Trivigno
- Efficient and scalable visual place recognition, Emanuele Munafò

Deep Learning R&D | Polytechnic University of Turin & Italian institute of Technology | 2020 – 2021

- Beginning the visual geo-localization project which led to the PhD
- Same tasks as for the PhD

Bachelor and Master in Software engineering | Polytechnic University of Turin | 2014 – 2020

Software Engineer | Consoft Sistemi | 2017 – 2018

- Full-time full-stack software engineer
- Building software based on the MVC framework, using Java, SQL, Angular and more
- Working in large (20+) and small teams
- In the last months of this job I led the creation of a software for the aerospace company Avio

PUBLICATIONS & *SUBMISSIONS

- *** Deep Visual Geo-localization Benchmark**

G. Berton, R. Mereu, G. Trivigno, C. Masone, G. Csurka, T. Sattler, B. Caputo

Under submission at **CVPR22**

- *** Rethinking Visual Geo-localization for Large-Scale Applications**

G. Berton, C. Masone, B. Caputo

Under submission at **CVPR22**

- **Viewpoint Invariant Dense Matching for Visual Geolocalization**

G. Berton, C. Masone, V. Paolicelli, B. Caputo

In proceedings of **ICCV21**

- **Adaptive-Attentive Geolocalization from few queries: a hybrid approach**

G. Berton, V. Paolicelli, C. Masone, B. Caputo

In proceedings of **WACV21**

LANGUAGES

- Italian native language
- English C2 (IELTS lv 7.5 in 2014)
- French B1
- Spanish C1
- Chinese B1 (HSK lv 4/6 in 2012)

OTHER EXPERIENCES AND SKILLS

- I recently joined the RoboTo team, with which I'll take part in the RobotMaster competition, which is helping me to **integrate computer vision skills into real robots**.
- I'm a **Python enthusiast**. Since I got to know Python I use it for everything: video editing, web scraping, telegram bots.
- I'm a **math-oriented** person: in my youth I won numerous math competitions, and in high school I reached the finals of the Nationals Olympics of Mathematics both individually and with my high school team.
- I'm an **avid traveler** (been to 40+ countries): I spent one year of high school in China, after which I took a gap year, working six months in Australian farms and then traveling from Thailand to Italy without flights. These adventures gave me **confidence** and **self-motivation**.
- I played football for more than 15 years, many of which I spent as captain of my team, which taught me about **teamwork** and **leadership**.
- I have been a football referee for two years, during which I've learned to **autonomously take quick decisions under pressure**.
- I've managed the rental of a holiday home for three summers in my hometown, for which I had to list the property on Airbnb and Booking, prepare the rooms and welcome the guests. From this I have learned the basics of **entrepreneurship** and dealing with customers.
- During my last year of high school I was one of four student government presidents. During this year, I had the chance to practice my **public speaking** skills.
- After volunteering as an English teacher at the Fantasy Camp in Belarus in 2016, I became their HR recruiter, and I was in charge of recruiting 60 international English teachers for the summer. I conducted hundreds of interviews, and I assisted the volunteers with travel and visa requirements. This experience improved my **organizational and scheduling skills**.