Gabriele Berton

**PhD Student in Computer Vision &
Applied Scientist Intern at Amazon**

(+39) 339 266 9685

berton.gabri@gmail.com

GitHub

LinkedIn

PROFILE

Skilled researcher and developer, always ready to take on ambitious challenges. I'm constantly looking for innovative solutions to real-world problems, which leads me to simultaneously publish in the world's top conferences and solve complex tasks, while keeping an eye on computational complexity and resources availability.

I'm excited to do an internship because I believe it can help me to acquire new points of view on the world-changing topics of deep learning and computer vision, and I'm sure that I can make a significant contribution wherever I work.

EMPLOYMENT & EDUCATION

PhD Student | Polytechnic 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.

Applied Scientist Intern | Amazon Berlin | May 2022 - Sep 2022
- Improving an existing action spotting pipeline in videos through multi-modal neural networks
- Analyzing video understanding and audio processing methods for a real-world application

Master thesis co-supervisor | Polytechnic 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 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 degree in Software engineering | Polytechnic of Turin | 2014 – 2020

Software Engineer | Consoft Sistemi | 2017 – 2018
- Full-time job as 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

SELECTED PUBLICATIONS (FIRST AUTHOR & TOP CONFERENCE)

- Deep Visual Geo-localization Benchmark (**Oral**)
  G. Berton, R. Mereu, G. Trivigno, C. Masone, G. Csurka, T. Sattler, B. Caputo
  In proceedings of **CVPR 2022**
- Rethinking Visual Geo-localization for Large-Scale Applications (Poster)
  G. Berton, C. Masone, B. Caputo

In proceedings of **CVPR 2022**

- Viewpoint Invariant Dense Matching for Visual Geolocalization (Poster)

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

  In proceedings of **ICCV 2021**

- Adaptive-Attentive Geolocalization from few queries: a hybrid approach (Poster)

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

  In proceedings of **WACV 2021**

PROGRAMMING LANGUAGES AND TECH SKILLS

- Excellent knowledge of: Python, PyTorch, FAISS, skimage, openCV, Git, visual geo-localization, image retrieval, object detection, image classification
- Advanced knowledge of: MySQL, Java, JHipster, image segmentation, text detection and recognition, unsupervised video depth estimation
- Good knowledge of: C, Kornia

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 methods 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 through AFS, after which I took a gap year, working six months in Australian plantations and then traveling from Thailand to Italy without flights. These adventures gave me **confidence**, **curiosity** and **self-motivation**.
- I played football for more than 15 years, many of which I spent as captain of my team. This experience taught me about **teamwork** and **leadership**.
- I have been a football referee for three 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 elected as one of four student government presidents. During this year, I had the chance to practice my **leadership** and **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.