Simone Azeglio

Personal Information

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Education

Oct 2014 – Apr 2018 **Bachelor in Physics** – *University of Turin, Turin, Italy.*

Oct 2018 – Dec 2020 **Master in Physics of Complex Systems** (current **GPA**: 4.0/4.0) – *University of Turin, Turin, Italy.*

Experience

Sep 2019 – Present **Guest Writer** – Analytics Vidhya (*Web-based*) & AddFor S.p.A, *Turin, Italy*

- Developing a series of interactive articles on the *Learning Problem*, a comparison between Biological and Artificial Intelligence. Consolidating **Python** and **LaTeX**.
- Converting industrial research papers on **Machine Learning** in blog articles by replicating the related code. Consolidating Deep Learning frameworks: **PyTorch** and **TensorFlow**.

Jul 2019 – Sep 2019
Jul 2018 – Sep 2018 **Visiting Research Student** – University of Ottawa, *Ottawa, Canada* (Cognitive Neuroscience, Maler's Lab - In collaboration with André Longtin)

- Increased animal tracking accuracy by **33%** and reduced manual labelling time by **90%** by introducing **DeepLabCut** (based on CNNs) instead of non-Deep-Learning based softwares.
- Solved trajectory related issues by designing a "*postural space*" by using **UMAP**.

May 2018 – Jun 2018 **Visiting Student (Summer School)** – Centre for Neural Dynamics, *Ottawa, Canada*

- Discussing about possible solutions to different Neuroscience related problems.
- Simulating a "strokes toy model" by using **AllenSDK** for data retrieval.

Feb 2017 – Apr 2018 **Research Assistant (Undergraduate)** – I.N.Ri.M, *Turin, Italy*, (Quantum Information, Genovese's Lab)

- Designing, running and analyzing data for an experiment on the **violation of a Leggett-Garg inequality** (foundations of Quantum Mechanics).
- Expanding personal knowledge on **Quantum Computing** and Information.

Leadership and Awards

Apr 2019 – Present **Founder & President** – *Machine Learning Journal Club*, *Turin, Italy*

- Created the **1st Italian** collaborative research project (*no-profit organization*) managed by students, in cooperation with the University of Turin.
- Teaching **Python** for Scientific Computing and Practical Machine (and Deep) Learning to undergraduate and graduate students.
- Designing possible solutions to high-impact problems on society, e.g. **Fake News Detection** (Italian language) or **DeepFakes**.
- Currently competing for Tensorflow Faculty Awards

Apr 2019 – Present **Co-opted Students Representative**

- Designated as Students Representative by the Head of Physics of Complex Systems after the creation of the Machine Learning Journal Club.

Sep 2018 – Sep 2018 **Data Mining Challenge** – Class Challenge, **1st** classified

- Developed NLP models for sentiment analysis, e.g **Word2Vec**, **Doc2Vec**.
- Designed **Data Augmentation** strategies on embedded spaces.

Jul 2014 – Sep 2014 **Master Talenti Neodiplomati** – Scholarship (CRT Foundation)

- Selected as **1 out of 103** eligible students for a *studying-working* 3-months experience in Malta.

May 2014 – May 2014 **Students Athletic Championship** – *Biella, Italy*, **2nd** Classified

- Represented my high school in 400 and 800 meters competitions.

Jan 2014 – Jan 2014 **Students Winter Sports Championship** – *Bardonecchia, Italy*, **2nd** Classified

- Represented my high school in snowboarding: slalom and slopestyle competitions.

Jun 2010 – Jun 2010
Jun 2011 – Jun 2011 **GloBall Cup** – *Enköping, Sweden*, **2nd** Classified

- Represented Italy with my football team (ASD Fulgor Ronco Valdengo) patronised by **UNICEF**.

Skills & Background Knowledge

Certificates

Mar 2020 - Apr 2020 **IBM AI Engineering Professional Certificate**

- *Machine Learning with Python* (Grade Achieved: **97%**)
- *Scalable Machine Learning on Big Data using Apache Spark* (Grade Achieved: **99.28%**)
- *Introduction to Deep Learning & Neural Networks with Keras* (Grade Achieved: **100%**)
- *Deep Neural Networks with PyTorch* (Grade Achieved: **100%**)
- *Building Deep Learning Models with Tensorflow* (Grade Achieved: **100%**)
- *AI Capstone Project with Deep Learning* (Grade Achieved: **97%**)

Apr 2020 - Present **AI for Medicine Specialization**

- *AI for Medical Diagnosis* (Grade Achieved: **100%**)
- *AI for Medical Prognosis* (Grade Achieved: **100%**)
- *AI for Medical Treatment* (Grade Achieved: **in Progress**)

Apr 2020 - May 2020 **Information Visualization Specialization**

- *Information Visualization: Foundations* (Grade Achieved: **99%**)
- *Information Visualization: Applied Perception* (Grade Achieved: **100 %**)
- *Information Visualization: Programming with D3.js* (Grade Achieved: **96.4 %**)
- *Information Visualization: Advanced Techniques* (Grade Achieved: **97%**)

Apr 2020 - May 2020 **Tensorflow in Practice Specialization**

- *Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning* (Grade Achieved: **100%**)
- *Convolutional Neural Networks in TensorFlow* (Grade Achieved: **100 %**)
- *Natural Language Processing in TensorFlow* (Grade Achieved: **100 %**)
- *Sequences, Time Series and Prediction* (Grade Achieved: **100 %**)

Apr 2020 - Present **Advanced Machine Learning Specialization**

- *Introduction to Deep Learning* (Grade Achieved: **100%**)
- *How to Win a Data Science Competition: Learn from Top Kagglers* (Grade Achieved: **in Progress**)
- *Bayesian Methods for Machine Learning* (Grade Achieved: **in Progress**)
- *Practical Reinforcement Learning* (Grade Achieved: **in Progress**)
- *Deep Learning in Computer Vision* (Grade Achieved: **in Progress**)
- *Natural Language Processing* (Grade Achieved: **in Progress**)
- *Addressing Large Hadron Collider Challenges by Machine Learning* (Grade Achieved: **in Progress**)

Programming Languages

Python, *Advanced*. (Numpy, Scipy, Pandas, Matplotlib, Plotly, OpenCV, Scikit-Learn, Tensorflow, PyTorch, OpenAI Gym, OpenAI Universe, Microsoft Malmo, DeepMind Lab).

CSS, HTML, Javascript, Tableau, *Foundations* of Web Development and Data Visualization(D3.js , Tensorflow.js).

C++ and **Java**, *Foundations* of OOP(ROOT Framework).

Go and **Solidity**, *Foundations* of *Smart Contracts* related programming.

GCP and **AWS**, *Foundations* of Cloud Computing and Web Services.

Git, operative knowledge of version control systems.

Linux OS, operative knowledge.

Languages

Italian, *Native.*

English, *Advanced.*

French, *Elementary.*

Interests

Hackathons

Nov 2019 – Nov 2019 **B-Pioneers** (organized by **Biogen** and **Wired**): Selected to Compete in order to create highly innovative solutions for people affected by **SMA** (**S**pinal **M**uscular **A**trophy). Applications of Complex Systems Physics to biometric data.

Personal Projects

May 2018 – Jun 2018 **MineNavigation**: Navigation Tasks in a Reinforcement Learning Framework

- Developed a Reinforcement Learning exploration strategy for my Minecraft Agent (**Project Malmo**). Source at terna.to.it/tesineEconofisica/navigation.htm

Oct 2015 – Present Designing and solving **CryptoPuzzles**

Volunteering

Mar 2020 – Present **Covid-19 Forecasting**: Building part of database by annotating useful news epidemicforecasting.org - **Future of Humanity Institute, University of Oxford**

Mar 2020 – Mar 2020 **Covid-19 News Tracker**: Annotating news for sentiment analysis purposes covid19.scops.ai - **University of Greenwich & ISI Foundation**

Sept 2017 – Mar 2018 **TEDxTorino**: Collaborating as a translator (Italian to English) and as a member of Curators Team.

Oct 2014 – Mar 2015 **Coding with EFF**: Looking for bugs in *HTTPS Everywhere.*

Publications and Workshops

Workshop Talks

Feb 2020 – Feb 2020 **Machine Learning Meets Chemistry** – Organized by the Department of Chemistry (University of Turin) (Programme)

- Presenting Machine Learning Journal Club as a contribution to Open Science.
- Discussing Graph Neural Networks approaches in Science.

Workshop Posters

Sep 2018 – Sep 2018 **Neural Coding 2018** – International Workshop on Theoretical and Computational Neuroscience (www.neuralcoding2018.unito.it)

- Presenting the results from my research period at the University of Ottawa.

May 2017 – May 2017 **Quantum 2017** – International Workshop on Quantum Optics and Quantum Information (www.quantum2017.unito.it)

- Presenting my Undergraduate thesis project.