MICHAEL DESSENA

Nuclear and Subnuclear Physicist

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BIOGRAPHY

I am a **nuclear and subnuclear physicist** really passionate in *science* and *mathematics*, I graduated from Università degli studi di Torino in 2022. I have experience in the field of physics, statistics, and computer science: I love learning new stuff, especially in these fields. In my life, I would like to work in a very international environment where I can research and contribute to developing new things.

STRENGTHS AND SKILLS

Python ●●●●● C++ ●●●●● Git & GitHub ●●●●◐
SQL ●●●●○ Grafana ●●●●○ Bash ●●●◐○
Flutter (Dart) ●●●◐○ Java ●●◐○○ Matlab ●●○○○
HTML, CSS, JavaScript ●●●◐○ LabWiev ●○○○○

Mathematics and Statistics ●●●●● Monte Carlo simulation ●●●●○
Big Data & Data analysis ●●●●● Machine Learning ●●●●◐

LaTeX ●●●●● Office 365 ●●●●●

SOFT SKILLS

- Problem solving
- Hard-worker
- Eye for detail
- Love work in team

LANGUAGES

Italian ★★★★★
English ★★★★☆

EXPERIENCE

Software Developer - Python, C++

September 2022 – Ongoing | Turin, Italy

Luxoft (DXC group)

I'm currently working at Luxoft as a **software developer**. My main activity is to develop/update KPIs in the framework of the **autonomous driving** field in particular for what concerns some Safety Related Scenarios (e.g. emergency braking).
I'm working as a consultant for a very famous German carmaker. This work gives me the possibility to deal with a combination of **data analysis, statistics and programming**. The main programming language I'm using is **Python**, but also **C++**. Working in Luxoft I have also the opportunity to work in a high international environment (working mainly in **English**).

- **Methodology:** Agile (Large Scale Scrum)
- Python, C++, Bash, SQL
- **Tools:** Github, Dockers, Bazel, Grafana, Airflow, Jenkins

Master Thesis work

September 2021 – June 2022 | Turin, Italy

Università degli Studi di Torino - INFN - CERN

During my Master Thesis, I had the opportunity to work within the framework of the **CMS** experiment (**cern**), in particular on the tuning of parameters for the simulation of soft quantum chromodynamic events (QCD), processes used for the description of the underlying event in **hadron-hadron collisions**. The description of the soft interactions related to the underlying event cannot be done in terms of perturbative QCD since the energy scale is too low to allow this approach. So, **Monte Carlo generators** are needed, but to work properly they require the tuning of their parameters. To do this, during my Master Thesis, I used a **Feed-Forward-Neural-Network** based approach: firstly I reproduced an existing result to validate my tool and then I proceeded with the extension of the tuning to new parameters. During this work, I had the opportunity to participate in weekly meetings of the group working at cern. I used a lot of different tools and deepened my understanding of **machine learning**.

- Particle physics, subnuclear physics, QCD
- Machine learning, statistics, Monte Carlo generators
- Python, bash
- **Tools:** Github, LaTeX

EDUCATION

Master degree in Nuclear and Subnuclear physics

Università degli studi di Torino

Oct 2019 – June 2022 **110/110** **cum laude**

“ Soft QCD parameters tuning using feed-forward neural networks”

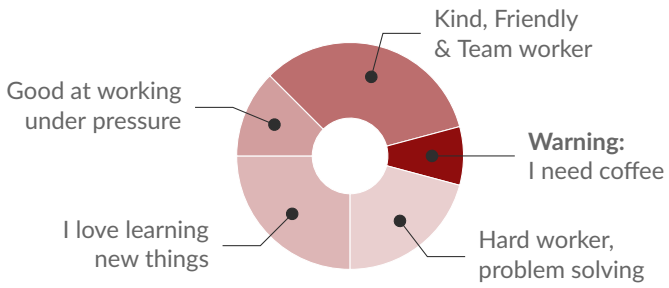
Bachelor degree in Physics

Università degli studi di Torino

Sept 2016 – Oct 2019 **103/110**

“ Framework for the Analysis of Monolithic Active Pixel Sensors”

MY PERSONALITY AT WORK



CERTIFICATIONS

Supervised Machine Learning: Regression and Classification
April 24, 2023 - Standford Online

MY PHILOSOPHY

“Once I get on a puzzle, I can’t get off.”

Richard P. Feynman

HOBBIES

Sport
Gym, volleyball, ski, tennis/padel
... and many others

Self-developing
Sometimes I like to spend my free-time for self-developing

Spend time with friends
I love spending time with my friends, hanging out, speaking, laughing with them

Visit new places
I like visiting new places around the world

WHY CHOOSE ME

I am a person that can learn very quickly thanks also to my background in a highly scientific topic, I am open to new challenges and I have a good problem-solving attitude. I am really passionate about science and new technologies. So, if you are looking for a person with at least one of these characteristics, I can be the right choice for you.