MICHAEL DESSENA

Nuclear and Subnuclear Physicist

23 March 1997 | michael.dessena97@email.com | +39 348 83 46 816
Via Erasmo da Rotterdam, 12/13B, Turin, 10134 | Turin, Italy
https://michaeldessena.github.io/personalpage/ | Michael Dessena | michaeldessena

BIOGRAPHY

I am a passionate **nuclear and subnuclear physicist** with a deep appreciation for *science* and *mathematics*. I earned my degree from the ***Università degli Studi di Torino*** in 2022. My academic journey has exposed me to a diverse range of disciplines, including **physics**, **statistics**, and **computer science**. I thrive on the excitement of learning and continuously seek opportunities to expand my knowledge, particularly in these fields.
Looking ahead, my aspiration is to work in a *highly international environment* where I can engage in *cutting-edge research* and actively contribute to the *development of innovative solutions*. My passion for science and mathematics drives me to explore new horizons and make a meaningful impact in the world of physics and beyond.

STRENGTHS AND SKILLS

Mathematics and Statistics ●●●●● **Particle Physics** ●●●●●
Nuclear physics ●●●●● **Big Data & Data analysis** ●●●●●
Monte Carlo simulation ●●●●○ **Machine Learning** ●●●●○

Python ●●●●● **C++** ●●●●◐ **Git & GitHub** ●●●●●
SQL ●●●●○ **Data visualization** ●●●●○ **Bash** ●●●○○
Matlab ●●◐○○ **HTML, CSS, JS** ●●●○○ **LabWiev** ●○○○○

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 am presently employed at Luxoft as a **software developer**. My primary responsibility involves developing and updating Key Performance Indicators (KPIs) in the context of **autonomous driving**, with a specific focus on **Safety Related Scenarios** such as emergency braking.
My role revolves around consultancy for a renowned German automaker, providing me with a diverse array of tasks that span **data analysis, statistics, and programming**. My primary programming languages include **Python** and **C++**.
Working at Luxoft, I have the valuable opportunity to operate within a **highly international environment**, predominantly using the English language.
This role has enabled me to apply my technical expertise in a dynamic and challenging field, contributing to the advancement of autonomous driving technology.

- **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's Thesis, I had the privilege to work within the framework of the **CMS** experiment at **CERN**. My focus was specifically on optimizing parameters for simulating **Soft Quantum Chromodynamic** (QCD) events, which are essential for understanding the underlying events in **hadron-hadron collisions**. Modeling these soft interactions proves challenging as they fall below the energy scale suitable for perturbative QCD analysis. Therefore, the use of **Monte Carlo generators** is imperative. However, for these generators to perform effectively, precise parameter tuning is essential.

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

To accomplish this, I employed a ***Feed-Forward-Neural-Network***-based approach during my Master's Thesis. Initially, I replicated an existing result to validate my method, and subsequently, I expanded the tuning to include new parameters. This experience allowed me to actively engage in weekly meetings with the research group at CERN, where I employed various tools and deepened my comprehension of **machine learning**.

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"

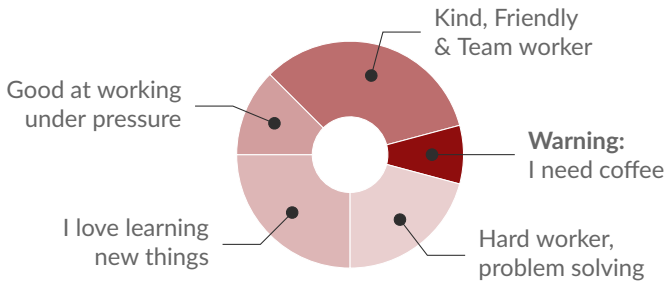
Bachelor degree in Physics

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.