Federico Gentile

Curriculum vitae

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Date of Birth: 07 February 1990
Place of Birth: Lovere (BG), Italy
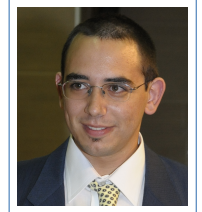
Working Experience

2019-present **Python Developer & Data Scientist Jr.**, *Austrian Airlines*, Vienna-AT.

Member of Digital Delivery team. My role is to define, organize and implement solutions to transform the airline towards a lean, efficient and 4.0 industry like company.

Main projects:
- ETA (Estimated Time of Arrival) & Taxi-Time prediction model based on (MLR) Multiple Linear Regression.
- Twitter Sentiment Analysis by applying NLP algorithms (ex: RandomForestClassifier) to analyze customers perception.
- Data analytic and reporting of:
  - Company economical situation
  - European air traffic between countries

  using Tableau and Microsoft SQL Server.
- Web interface to track aircraft real time positioning based on Opensky API.
- OKR web app developed with Flask to track company's targets. Application and the database hosted on Azure.
- Luggage optimization via statistical analysis on historical flights.
- Automate manual processes such as data manipulation, parsing and analytic by using Databricks notebooks orchestrated via Azure Data Factory pipelines.

2020-2021 **BI expert & Data Analyst**, *Lufthansa Group*, Frankfurt-De.

Member of the ReNew team. My role is help the company to survive during the COVID-19 by aggregating and cleaning procurement data and generating dashboards to display potential financial savings.

Main projects:
- Functional Procurement reports based on Tableau Dashboards and Python based statistical analysis.
- Airport Fees and Charges analysis to identify cost differences across all airports.

2020-2021 **Lecturer**, *Talent Garden*, Vienna-AT.

Business Intelligence lecturer. I create video tutorials and hold class and 1on1 lessons about BI and Microsoft Power BI.

Main projects:
- Oct 2020 - RBI Mind The Data Training
- Jan 2021 - Business Data Analysis Part 4
- Jun 2021 - Business Intelligence

2016-2019 **R&D Scientist II**, *Honeywell Aerospace*, Brno-CZ.

Member of Mission Management and Flight Operations team. My goal was to find solutions to help airlines to reduce costs, save fuel and time.

Main projects:
- Creation of a 3D airspace topological graph (based on ARINC 424 database) and flight optimization with Dijkstra's algorithm.
- Data preparation and simulation of in-flight turbulence avoidance.
- Statistical analysis of resolution advisory of TCAS/TSAA flight encounters.
- On-Board Drone Detection: Experimenting with aircraft on-board camera to detect drone hazard via image recognition using *YOLO*.

Awards & Patents:
- 1 silver award for successfullly delivering SID/STAR automatic detection to costumer.
- 2 bravo awards for going above and beyond daily responsibilities.
- 1 patent for SID/STAR automatic detection.

Accademic Career

2012-2015 **M.Sc. in Aeronautical Engineering - Aerodynamics (2 year program)**, *Polythecnic of Milan*, Final Grade: 103/110 or GPA: 3.8.

Thesis: "Molecular gasdynamic simulation using GPU: applications and performance analysis"

Analysis of the performance of a molecular dynamic code (Direct Simulation Monte Carlo) aimed to estimate the viscosity of a diatomic dilute gas using GPUs as instruments to reduce computing time.

2009-2012 **B.Sc. in Aerospace Engineering (3 year program)**, *Polythecnic of Milan*, Milan, Final Grade: 101/110 or GPA: 3.7.

| 2007-2008 | **Full Year Exchange Program - High School**, *Santa Margarita Catholic High School*, Rancho Santa Margarita, CA, USA, G.P.A 4.0. |

Programming Skills

Prog. Lang.	Excellent: Matlab, Octave, Python, Latex
	Intermediate R, Fortran, CUDA C
Python Libs.	Excellent: Flask, Django, Pandas, Numpy, Matplotlib, Folium
	Intermediate: Scikit-learn
	Beginner: Tensorflow(I/B), Flask
BI Tools	Excellent: Tableau, Microsoft PowerBI, Databricks
	Intermediate: Microsoft SQL Server, Microsoft Azure, Azure Data Factory
IDEs	Excellent: Jupyter, Spyder, Texmaker
	Intermediate: RStudio
Other SW	OpenFOAM, freeFem++, Paraview,
	SU2, SolidWorks, Xfoil, Ansys Fluent

Languages

Native	**Italian** and **Spanish**, *raised by bilingual family*.
Fluent	**English**, *Toefl 104/120 + lived 1 year in Ladera Ranch, Ca, USA*.
Beginner	**German** *A1* , **Czech** *A2*

Training Courses

Mar 2019	**The Data Scientist's Toolbox** by Coursera
Feb 2019	**Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization** by Coursera
Sep 2018	**Machine Learning Boot Camp** by Honeywell: 1-week training to learn the most important features of ML
Aug 2018	**Neural Networks and Deep Learning** by Coursera
Aug 2014	**ANSYS Summer School CFD/FEM**: 3-day training program aimed to teach the basic concepts of fluid dynamic simulations.
2009-2012	**JUMP** (Job University Matching Project): a training program hold by the *R.U.I Foundation* and sponsored by *Polythecnic of Milan*, *Catholic University of Milan* and *ESCP Europe*. The three main goals of JUMP are:

- Combining accademic learning to professional experience through practical cases;
- Improving relationship skills;
- Focusing on personal and professional goals.

The program is divided into 9 moduls (3-economy, 3-anthropology, 3-soft skills), which are held by professors and highly quilified professionals.

Personal Interests

2021-present	**Content Creator**, *Youtube*, I have a Youtube channel where I share knowledge about blockchain and smart-contracts development.
2019-2020	Volunteering in a nursing home (Hospic sv. Alzbety, Brno).
2012-2016	Volunteering for *AFS* (American Field Service): *AFS* is a non-profit organization aimed to promote the encounter and the communication between people of different cultures by international exchange programs for highschool students. My role was to select deserving students who are elegible for the exchange programs.
2008-2015	Volunteering in a homeless shelter (Milan-IT, Irvine-USA) to prepare them food and a place to sleep.