Pier Paolo Ippolito

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PROFESSIONAL SUMMARY

Data Analytics Engineer at Swiss RE and MSc in Artificial Intelligence holder with an interest in research areas such as Data Science, Machine Learning and Cloud Development. As a result of my work experience, I had the opportunity to work with large scale software projects collaborating effectively within different teams. Aside from my work activities, I run a part-time consultancy business and I am Azure x4, GCP, AWS, Databricks cloud certified.

AREAS OF EXPERTISE

Programming Languages: Python/SQL/R/Scala.
Frameworks: TensorFlow/Keras/PyTorch/Scikit-learn/Apache Spark/MLFlow/Plotly.
Technologies: Azure/AWS/GCP/Palantir Foundry/Databricks/Snowflake/dbt/Airflow/Tableau/Docker/RPA/Git.
Soft Skills: Team Building/Project Lifecycle Management (Scrum)/Fluent in English and Italian.

EMPLOYMENT HISTORY

Swiss RE, *Zürich, Switzerland*
Data Analytics Engineer, Assistant Vice President   *Apr. 2022 – Present.*

- Developing Swiss Re Stargate Data Platform to process and enrich petabyte-sized data using Apache Spark on Palantir Foundry in order to enable Analytics & AI applications on a global scale.
- **Leading development teams** for the creation of ad-hoc actuaries/underwriting use cases (pipelining & advanced analytics) and creating company-wide development blueprints for end users.

PPI Consulting, *Zürich, Switzerland*
Founder   *Apr. 2019 – Present.*

- Contributing part-time as an Editor and Writer for Towards Data Science (link), with more than **1 million views** worldwide. Additionally, as a writer, I frequently publish articles about Artificial Intelligence and Software Development in partnership with various platforms (link) like Anaconda, freeCodeCamp, and ODSC.
- **Tested, validated and showcased products** from companies such as Remo.ai, TechTree, Datapizza, and Kili Technologies.
- Worked as an external **Data Science Consultant** for Digital-Dandelion (Sept. 2019 - Sept. 2020), collaborating in business sectors such as finance and e-commerce. In each project, I helped clients to plan and deliver specialized ML solutions.

SAS Institute, *London, UK*
Customer Facing Data Scientist   *Aug. 2020 – Mar. 2022*

- Effectively worked in the pre-sales division in order to help SAS customers solve various cloud based challenges (e.g. Azure, AWS) designing tailor made data-driven solutions and ML/DL models to best fit their needs.
- Ideated and developed a MVP (minimum valuable product) for a new SAS service to be developed at the EMEA level with a potential of **£3 million annual revenue**.
- Designed the ETL pipeline to track and visualise the UK learning technologies award winning programme SAS STEP.

ION Group, *Woking, UK*
Summer-Intern, Software Engineer   *Jul. 2019 – Sept. 2019*

- Improved ION's Fidessa online framework working in the **Financial Derivatives Automation** Team. This role involved working on the client-side using Javascript, and on the server-side using SQL.
- Throughout this experience, I attended daily Scrum meetings with the rest of the team in order to ensure the best division of workloads and punctual delivery.

Documation Software Ltd, *Southampton, UK*
Spring-Intern, Software Engineer   *Apr. 2019 – Apr. 2019*

- Created and implemented two programs using UIPath as a Robotic Process Automation (link) tool to automate supplier's registration and creation of invoices into financial systems (e.g. Sage 50).
- The two developed programs have then been successfully deployed to production and used by Documation and its customers. Their application has been proved to **speed up processes up to three times**.

PUBLICATIONS & RESEARCH PROJECTS

Applied Data Science in Tourism

- Contributed to the publication of "Applied Data Science in Tourism" (link) comprising Springer's series "Tourism on the Verge" (**more than 40K accesses**).
- As part of this project, I covered the 12th chapter of the book, in which were discussed some of the most common Hyperparameter Tuning techniques used in Machine Learning and how they can be used in various tourism related data-driven applications.

Open Source Contributions

- Initiated various open source projects (link) using programming languages such as Python and R (**more than 400 followers on GitHub**). Some of my most interesting projects regarding topics such as Computational Finance and Reinforcement Learning are currently available in my Artificial Intelligence Projects GitHub repository (link).
- Enrolled in the **AWS Community Builders** program as a Data Specialist, creating AWS enablement material and providing feedback on new AWS features.

Causal Reasoning in Machine Learning

- Nowadays Machine Learning technologies rely just on correlations between the different features. Although, this approach can possibly lead to wrong conclusions since correlation does not necessarily imply causation.
- As part of this research study (link), I **created and deployed on Amazon Web Services (AWS) a suite of Agent Based and Compartmental Models** in order to simulate epidemic diseases developments in different types of communities.

Alleviate Children's Health Issues through Games and Machine Learning

- Developed a suite of games designed to help children affected by disabilities. The games were synchronised with a EEG wearable device used to register the children brain activities. By analysing the brainwaves data **using a Long Short Term Memory (LSTM) model, it was possible to correctly classify with 96.9% accuracy if a child was affected or not by autism**.
- An online publication about this research project is available at this link. To successfully manage this project, different project management tools such as Gantt charts and Risk Assessment Matrices have been used.

Evolutionary Algorithms

- Successfully reproduced and expanded Dr Simon Power's research publication "Individual Selection for Cooperative Group Formation" in order to examine the effects of group selection (link). Group selection, is an evolutionary mechanism in which natural selection takes place in groups instead than at individual level.

Understanding Cancer using Machine Learning

- Tested multiple techniques for Features Selection and Extraction (eg. Feature Importances, Decision Trees and Recursive Feature Elimination) in order to denoise large cancer genes datasets and speed up Machine Learning analysis (link).

EDUCATION

University of Southampton, *Southampton, UK*
MSc Artificial Intelligence *Sept. 2019 – Sept. 2020*
Distinction (86%).
Key Modules: Evolution of Complexity (95%), Deep Learning (92%), Reinforcement & Online Learning (85%).

University of Southampton, *Southampton, UK*
BEng (Honours) Electronic Engineering *Sept. 2016 – June. 2019*
First Class Honours Degree (78.68%), top 2% Electronics and Computer Science Department.
Key Modules: Computational Biology (95%), Machine Learning (83%), Robotic Systems (88%), Dissertation (89%).

Liceo Scientifico Enrico Fermi, *Aversa, Italy*
*Esame di Stato (A-Level Equivalent), 99/100 (A*AA Equivalent).* *Sept. 2011 – July. 2016*

AWARDS & SCHOLARSHIPS

- Awarded various technical **cloud certifications (Azure, AWS, GCP and Databricks)** on platforms such as Credly (link), Accredible (link), Google Cloud Training (link) and Coursera (link).
- Hursley Prize for Outstanding Computer Science Project 2018/19 (Dissertation: **89%**).
- Electronics and Computer Science 2016 Excellence Scholarship - monetary award for exceeding university requirements.

ACTIVITIES

Events

- Google Developer Group (London) member 2021, TEDxLondon Volunteer 2021, Facebook Analytics Academy 2018, J.P. Morgan: Introduction to Big Data Analytics using Spark and Python 2018 (Spark data-set challenge winner).

Hackathons

- Kaggle Competitions (link), Google BGN 2019 London Hackathon, Facebook London Hack 2019: First Challenge Winner, Hack The South 2019: Best Hardware Prize Winner.

Microsoft Student Ambassador

- As part of my Master Degree, I have been a Microsoft ambassador at the University of Southampton. Thanks to this role, I had the opportunity to organise and present Workshops and Hackathons events using Microsoft Azure technologies.

Societies

- I have been a **founding committee member** of the University of Southampton Artificial Intelligence Society for which I organised workshops covering topics such as Machine Learning deployment and Natural Language Processing.

CONFERENCES

Meetups Speaker

- Participated as a **speaker in various online conferences and meetups** such as the Microsoft Reactor of London and Google Developers Group (Zürich). Some of these recorded sessions, are freely available on my website (link).

Open Data Science Conference 2020 (Europe)

- Took part at the 2020 Open Data Science Conference as a team member of the SAS UK booth, in order to showcase the latest advancements of the SAS Viya data analytics platform.

Mobile World Congress 2019

- Attended the 2019 Mobile World Congress in Los Angeles (US) as a **press member for NVIDIA** to find out how 5G technologies can be used to enhance AI powered applications.