

# Pier Paolo Ippolito

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## PROFESSIONAL SUMMARY

I am a SAS Data Scientist and MSc in Artificial Intelligence graduate with an interest in research areas such as Data Science, Machine Learning and Statistical Analysis. As a result of my work experience, I have had the opportunity to work with large scale software projects collaborating effectively within different teams. Aside from my employment, I am a research data scientist and technical writer for Towards Data Science (an online publication with two million annual readers).

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## AREAS OF EXPERTISE

**Programming Languages:** Python/R/SAS Viya/SQL/C/C++/UIPath/Git Version Control.

**Frameworks:** TensorFlow/Keras/PyTorch/Apache Spark/Microsoft Azure/Docker/Kubernetes.

**Soft Skills:** Team Building/Project Lifecycle Management (Scrum)/Fluent in English and Italian.

**Writing/Presentation Software's:** LaTeX/Microsoft Office/Markdown/Camtasia.

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## EDUCATION

**University of Southampton, Southampton, UK**

MSc Artificial Intelligence

Sept. 2019 – Sept. 2020

On course for a First Class Honours Degree.

**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

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## EMPLOYMENT HISTORY

**SAS Institute, London, UK**

Data Scientist

Aug. 2020 – Present.

- As part of my role at SAS, I am currently working with the Data Science team in order to help our customers solving various data-driven challenges using Cloud-based technologies and DevOps processes.
- SAS is a leader in data analytics with more than 40 years of experience and representing about 92% of the US Fortune 100 companies.

**Towards Data Science, Southampton, UK**

Technical Writer/Editor

Apr. 2019 – Present.

- I am currently both an Editor and Writer for [Towards Data Science](https://towardsdatascience.com/). As a writer, I frequently publish articles about Artificial Intelligence and Software Development (which have been viewed approximately 150,000 times in the last six months).
- As part of my Editor experience, the editorial team and I makes use of agile communication channels such as Slack and Teams.

**Digital-Dandelion, London, UK**

Research Data Scientist

Sept. 2019 – Sept. 2020

- As a freelance Research Data Scientist, I collaborated with a variety of business clients in sectors such as finance, retail and e-commerce. In each business project, I worked with clients to plan and deliver specialised solutions to solve their commercial data problems.
- One of the most interesting projects I worked on was on analysing how changes in Stock Prices can affect different company shares parameters (Level 2 Data) and how can these be predicted. To do so, different techniques such as Feature Selection/Engineering and Ensemble Learning have been employed.
- The role has developed my ability to work to a deadline to produce an excellent product, utilising A/B testing and version control tools such as Git.

**Fidessa, Woking, UK**

Summer-Intern, Service Delivery Developer

Jul. 2019 – Sept. 2019

- As part of the role, I improved the Fidessa online tools framework working in the Financial Derivatives Automation Team.
- This role involved working on the client-side using HTML/CSS/Javascript, and on the server-side using SQL.
- Throughout the experience, I attended daily Scrum meetings with the rest of the team in order to ensure the best division of workloads and punctual product delivery.

**Documation Software Ltd, Southampton, UK**

Spring-Intern, Software Developer

Apr. 2019 – Apr. 2019

- Created and implemented two programs using UIPath as a [Robotic Process Automation](https://ui-path.com/) tool to automate supplier's registration and creation of invoices into financial systems (Sage 50).
- The two programs I developed are currently used by Documation and its customers. Their application has been proved to speed up these processes up to three times.

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## RESEARCH PROJECTS

### 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, I created and deployed 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 wireless 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 is affected or not by autism. An online publication about this research project is available at [this link](#). To successfully manage this project, a Gantt chart has been used as personal project management tool.

### 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. 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.

### Image Feature Extraction and Classification

- Implemented Feature Extraction techniques such as HOG (Histogram of oriented gradients), SIFT (Scale-invariant feature transform), SURF (Speeded up robust features) in Python in order to perform classification on a 15 class dataset of 1500 images using bag of visual words (BoVW) and one versus all classifiers.

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## AWARDS & SCHOLARSHIPS

- Hursley Prize for Outstanding Computer Science Project 2018/19 (Dissertation: 89%).
- Electronics and Computer Prize Excellence Scholarship 2016 - monetary award for exceeding university entry requirements.

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## ACTIVITIES

### Microsoft Student Partner

#### *Microsoft Azure Repository*

- As part of my Master Degree, I have been a Microsoft Ambassador at the University of Southampton. As part of this role, I organise and present Workshops and Hackathons events using Microsoft Azure technologies (eg. AI in Gaming).

### Events

#### *Companies Data Science Challenges*

- Facebook Analytic Academy 2018, J.P. Morgan: Introduction to Big Data Analytic using Spark and Python 2018 (Spark data-set challenge winner), Microsoft: Deep Learning Data Analysis in Azure Workshop.

### Hackathons

#### *Hack The South Repository*

- Google BGN 2019 London Hackathon, Facebook London Hack 2019: First Challenge Winner, Hack The South 2019: Best Hardware Prize Winner.

### Societies

#### *University of Southampton Artificial Intelligence Society*

- I have been founding committee member of the University of Southampton Artificial Intelligence Society (Advanced Workshop Officer) for which I organised workshops covering topics such as Machine Learning models deployment, Natural Language Processing, Recommender Systems and Sentiment Analysis.

### Data Structures & Algorithms

#### *Algorithms and Hackerrank Challenges*

- Experienced working with Data Structures & Algorithms and implementing them in order to solve common programming problems.

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## CONFERENCES

### Open Data Science Conference 2020 (Europe)

#### *SAS at ODSC*

- 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

#### *Review Article*

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