Pier Paolo Ippolito

Email: pierpaoloippolito28@gmail.com — Mobile: +44 07904579210
LinkedIn: linkedin.com/in/pierpaolo28 — GitHub: github.com/pierpaolo28 — WebSite: pierpaolo28.github.io/

PERSONAL STATEMENT

I am a final year MSc in Artificial Intelligence student at the University of Southampton 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 studies, I am a Microsoft Student Partner (Imagine Cup 2020 EMEA Region Finals attendee), research data scientist and technical writer for Towards Data Science (an online publication with two million annual readers).

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%), Computer Vision (84%), Intelligent Agents (89%).

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*

SKILLS

Programming Languages: Python/R/SQL/Scala/C/C++/UIPath/Git Version Control.
Frameworks: TensorFlow/Keras/PyTorch/Microsoft Azure/AWS/Apache Spark/Plotly/RAPIDS.
Soft Skills: Team Building/Project Lifecycle Management (Scrum)/Fluent in English and Italian.
Writing/Presentation Software's: LaTeX/Microsoft Office/Markdown/Camtasia.

EMPLOYMENT HISTORY

Digital-Dandelion, *London, UK*
Research Data Scientist *Sept. 2019 – Present.*
- As a freelance Research Data Scientist, I collaborate with a variety of business clients in sectors such as finance, retail and e-commerce. In each business project, I work with clients to plan and deliver specialised solutions to solve their commercial data problems.
- For example, I am currently working 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.

Towards Data Science, *Southampton, UK*
Technical Writer/Editor *Apr. 2019 – Present.*
- I am currently both an Editor and Writer for Towards Data Science. 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.

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 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.

University of Southampton, *Southampton, UK*
Summer-Intern, Electronics and Computer Science Researcher *Jun. 2018 – Sept. 2018*
- Designed and developed the chip and board layout for a monolithic quantum dot enhanced micro-display demonstrator device.
- This project was carried out in collaboration with a University in Hong Kong to research how to improve the efficiency of next generation Micro-LED displays.

RESEARCH PROJECTS

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.

ANAC2020: Game Theory Based Negotiation Agent

- Created an interactive trading bot in Java (using the GENIUS framework) for the 2020 international ANAC competition. In order to create the trading agent, Game Theory and Reinforcement Learning based approaches were used to model opponents behaviours and generate the best possible offers able to increase the agent's utility.

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.

Xperty Researcher Consultant

- As part of my freelancing work for Xperty, I analysed Financial Time Series data in order to predict stock market prices. To do so, different techniques outlined in Research Publications such as "CNN-based stock market prediction using a diverse set of variables" (by Ehsan Hoseinzade and Saman Haratizadeh) and "A comparative study on techniques used for prediction of stock market" (by Lakshmi Tharun Ponnam et al.) have been used.

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.

ACTIVITIES

Microsoft Student Partner

Microsoft Azure Repository

- I am currently 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 am a founding committee member of the University of Southampton Artificial Intelligence Society (Advanced Workshop Officer) for which I organise 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.

CONFERENCES

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.