Andrea **D'Olimpio**

Computational Neuroscience MSc Student | Computer Science Graduate

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"If I have seen further it is by standing on ye sholders of Giants." - Sir Isaac Newton

Education

University of Edinburgh — *Edinburgh, UK*

MSc by Research, Informatics: Machine learning, Comp. Neuroscience, Comp. Biology. — *Oct. 2018 - Sep. 2019*

- Supervisor: Dr. Peggy Seriés
- Research based degree
- Thesis on punishment based avoidance learning models for anxiety
- Courses: Machine Learning and Pattern Recognition, Reinforcement Learning, Neural Computation, and Computational Cognitive Neuroscience

University of Southampton — *Southampton, UK*

BSc in Computer Science, First Class Hons. — *Sep. 2015 - Jun. 2018*

- Passed all 3 years with all first class grades
- Achieved 86% on my thesis project, noted as *prizeworthy*
- Courses include: Machine Learning, Computer Vision, Adv. Machine Learning, Algorithms and Data Structures, Theory of Computing
- Dissertation project is a study on machine artistic inspiration using GANs to generate music influenced by visual inputs
- Awarded Netcraft Scholarship as one of the top 10 students in the faculty

Liceo Scientifico Amedeo Avogadro — *Rome, Italy*

Diploma Esame di Stato, 100/100 — *Sep. 2010 - Jul. 2015*

- Completed my school studies achieving 100% in the final exam
- Covering 10 different subjects, including: Maths (10/10), Physics (10/10), Chemistry (10/10), Biological and Natural Science (10/10)

Experience

Google — *Mountain View, California, US*

Software Engineering Intern — *Jun. 2018 - Sep. 2018*

- Member of Google Express, Transportation Management Intelligence team
- Technologies used and learnt: Java backend server, statistical inference
- Demonstrated strong problem solving skills
- Attended Internal Research talks and courses on Machine Intelligence

Google — *Munich, Germany*

STEP Software Engineering Intern — *Jul. 2017 - Sep. 2017*

- Member of Chrome V8 team
- I worked on ChromiumDash, a progressive web app for Chromium developers. I built a commit impact analyser
- The project was released to the public shortly after my internship and it is still actively used today
- Technologies I used and learnt: Python, Google Appengine, Polymer JS, NDB, Git
- Professional development: Team work, independently looked for tasks, proactively designed and tested my implementations, collaboration with V8 team to understand their needs. Presented project in front of large audience
- Attended 2 Internal Machine learning courses covering TensorFlow and ML theory

HackStore Team

Freelance Software Developer — *Dec. 2012 - Jun. 2013*

- Having published macOS several scripts on HackStore platform, they offered me additional editorial rights to publish my scripts without moderation
- Presented and designed a project for a iOS theme styler. Completed requirement analysis, I created the web application in JavaScript, HTML and CSS. iConStyler became the first theming platform for non-jailbroken (non-rooted) iOS devices
- Demonstrated creativity, problem solving skills, time management, and good management of the project

Skills

Programmming Java, Python, Tensorflow, Matlab, Google App Engine, C, JS, Polymer JS, Django, MySQL.

Professional Problem solving, Research, Machine Learning, LaTeX, Presentation skills, Git version control.

Languages Italian (native), English (fluent), Spanish (intermidiate), German (beginner).

Research and Publications

Image to Music Synthesis: an emotion based approach
Southampton, UK

University of Southampton, Supervised by Dr Long Tran-Thanh — *Nov. 2017 - May 2018*

- Exploring artistic inspiration with deep learning
- Modelled a GAN based network able to convert images in original multi-instrument audio clips that capture the mood of the picture

Breaking CAPTCHAs with Capsule Networks
Southampton, UK

University of Southampton — *Mar. 2018 - May 2018*

- Exploring limits and abilities of Capsule Network and comparing its performance with CNN
- In this paper several experiments are conducted to measure Capsule Networks to break CAPTCHAs performing inverse graphics
- Our results support the argument that CapsNet are in practise still weaker than pooling based CNNs

Projects

Horrible Hangman
Munich, Germany

Actions on Google Developer Challenge, Award Winning Project — *Aug. 2017*

- Horrible Hangman is a Google assistant action that lets the user play the classic hangman game
- This project was awarded a prize for user engagement, advancing to the next tier in the developer community program
- Built with NodeJS and Dialogflow (API.ai), with a fellow Google intern to take part Actions on Google Challenge

Contatto
Italy and UK

Hackathon Winning Project — *Sep. 2016 - Dec. 2016*

- Pebble smartwatch app that connects people on social media when they shake hands
- Won €2,000 in Cloud services at HackCortona, decided to bring the project to the next stage
- Designed with UML, made in C with Pebble SDK and Java with Android SDK for the companion app

Fractal Explorer
Southampton, UK

Individual project — *Jan. 2016*

- Java program to navigate and explore several fractals, given a function
- Multi-threaded rendering of fractals, GUI made with Java Swing

Achievements

2018	**Award for Keeping Users Engaged**, Actions on Google Developer Community Program	*Mountain View, CA*
2017	**Winner**, Netcraft Phishing Kit Event	*Bath, UK*
2016	**2nd Place**, HackCortona	*Cortona, Italy*
2016	**Winner**, Hack In the Dark (WebDev internal competition at HackCortona)	*Cortona, Italy*
2016	**3rd Place**, SotonHack, MLH Hackathon	*Southampton, UK*
2016	**AWS Prize**, HackKings 3.0	*London, UK*

Courses and Workshops

Computational Neuroscience, Coursera
University of Washington, Rajesh Rao — *Jun. 2018 - Sep. 2018*

- Covering theoretical Neuroscience concept as well as different Artificial Neural Networks and cognitive models
- Practical exercises and problems solved in Python

Machine Learning, Coursera
Stanford University, Andrew Ng — *Jul. 2017 - Sep. 2017*

- Covering most theoretical Machine Learning concepts
- Passed assignments with 98%

Udacity Deep Learning
Google — *Sep. 2017*

- Covering different kinds Deep learning networks and their best regularization techniques
- Assignment: OCR with Tensorflow

Machine Learning Workshop
Cambridge Coding Academy and J.P. Morgan — *May 2016*

- Covering highlevel machine learning with Scikit-learn
- Built a spam classifier

Interests and Volunteering

- Volunteered at Ronald Mc Donald Haus, Munich, where helped with cleaning and cooking for families whose children have heart diseases.
- Volunteered at UnionFilms student cinema. Roles: Deputy Head Projectionist, Team Leader, and Volunteer. Making films more accessible to people by working in a volunteer led cinema. Improved communication skills, team work and team leadership and management. As Deputy Head Projectionist I was responsible for films to start in time and be able to recover from failures in time critical situations.
- Traveller, visiting or living in different countries keeping my mind flexible to new ideas. My passion for travelling encouraged me to move to a new country.
- Committee of Wing Chun Club Southampton. Engaging people in learning one of the most efficient kung fu styles.
- Member of the University Triathlon Team, I believe in the latin motto: *Mens sana in corpore sano* (A healthy mind in a healthy body).

References

Available upon request.