Alessia Gerbasi

Cariati (CS), 18.05.1996
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EDUCATION

10.2020 - present **Ph.D. student** at University of Pavia
Bioengineering, bioinformatics and health technologies

10.2018 - 09.2020 **Master Degree** at University of Pavia
Bioengineering

Thesis:
Eye-tracking features design for early detection of mild cognitive impairment and cervical dystonia
This thesis work is the result of a 6 months collaboration with the Artificial Intelligence Laboratory of University of Ljubljana and NEUS Diagnostics d.o.o. The goal of this thesis was to analyze gaze data collected with eye-tracking technology and design possible predictors for two neurological disorders: Mild Cognitive Impairment (MCI) as a phase before developing an overt dementia and Focal Cervical Dystonia (FCD). After the features design and analysis we built a feature-based machine learning model able to quite accurately detect people that present with cognitive impairment.
Mark: **110/110 cum laude**

Academic projects:
U-Net: Convolutional Networks for Biomedical Image Segmentation
In this project I implemented the U-Net network with some variants writing my own code version in Python (Keras, Tensorflow) and I tested it on the cells' images of the original dataset (ISBI cell tracking challenge 2015) with good segmentation results.

Data mining analysis of Colposcopy dataset
The aim of this work was to identify a model that could predict the good/bad quality of colposcopy images because it has been proved that it can really affect the final diagnosis. The dataset was freely accessible on UCI repository. I tested four different machine learning models: Decision tree, Logistic Regression, SVM and Random Forest and proved that the last two allow to obtain excellent results.

3-7.12.2018 **International Winter School** University of Pavia & Fondazione Mondino
Machine and Deep Learning for Neurological Diseases

10.2015 - 09.2018 **Bachelor Degree** at University of Pavia
Bioengineering

Thesis:
Identification of metabolic multi-models for type 1 diabetic patients

During my thesis work I did a lot of data analysis and statistical tests in order to find the most important features in the glycemic curves of type 1 diabetic patients who took part in the clinical trials of Artificial Pancreas Project AP@home. Then I focused on a single patient and I used an extension of IR technique to identify a personalized prediction model for the AP of the analyzed patient.
Mark: **107/110**

09.2010-07.2015 **High School** at Liceo Scientifico 'Filolao', Crotone (KR), Italy
Mark: **100/100 cum laude**

WORK EXPERIENCE

09.2017 - present **Tutor of Medical Informatics** at University of Pavia
Teaching assistant during lessons, exercises and exams

03.2020 - 08.2020 **Erasmus Traineeship** at University of Ljubljana
Research intern at Artificial Intelligence Laboratory working on master thesis. Head of the laboratory: Prof. Aleksander Sadikov

CERTIFICATIONS AND RECOGNITIONS

29.06.2015 **Cambridge English Level 1 Certificate ESOL International (First)**

25.03.2015 **International Masterclass hands on particle physics**
INFN - University of Cosenza

24.05.2013 **C1 EFFECTIVE OPERATIONAL PROFICIENCY**
ESOL CERTIFICATE® British Institutes®

5.05.2012 **Giochi Matematici del Mediterraneo** National Championship 2012
Università degli Studi di Palermo

22.05.2010 **Pucciarelli-D'Afflitto prize XLIV edition**
ROTARY CLUB Crotone

07.2009 **English Language Summer School**
University of Dundee (Dundee - Scotland)

SKILLS

Programming Skills

Languages	Python, C, Matlab, SQL, R, Perl
Markup Lang.	HTML, CSS
Frameworks	Keras, Numpy, Scipy, Pandas, Matplotlib, Scikit-Learn, Seaborn

Languages

Native tongue	Italian
Excellent C1	English

Knowledge

Data analysis, machine and deep learning, image processing, model identification, decision support systems, bioinformatics

INTERESTS

AI in medicine
Artistic gymnastic and sports in general
Travels and nature
Scouting and volunteering

I Authorize the treatment of my personal data inside my curriculum vitae (art. 13, Law 196/2003, Italy).

29.10.2020