

Curriculum Vitae

ESTER BRUNO



PERSONAL INFO

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Sex: Female || **Date of birth:** 10th December 1992 || **Nationality:** Italian

WORK EXPERIENCE

- *October 2020 – present*

Researcher fellow at the CNR Institute for Computational Linguistics (ILC) in Pisa, Italy. Research field: speech recognition. I am currently involved in the Readlet project, which collects informations about children's reading behaviour via a tablet-based application and should eventually help educators to dynamically spot learner's weaknesses and strengths.

QUALIFICATION

- *1 February 2021*

Qualification to the profession of Engineer, Section A - University of Pisa

EDUCATION

- *July 2020*

Master's Degree in Biomedical Engineering, University of Pisa, Italy, 110/110.

- *December 2019 - July 2020*

Master Thesis in Biomedical Engineering, University of Pisa

Thesis titled: "*Speech signal analysis as an aid to clinical diagnosis and assessment of mental health disorders*", carried out in collaboration with Laboratoire de Psychologie de Université de Stasbourg and Institut National de la Santé et de la Recherche Médicale (INSERM), Strasbourg, France.

Focused on signal processing methods, the aim of the thesis was to aid clinicians in the diagnosis and monitoring mental health disorders such as bipolar disorder (BD) and Attention Deficit Hyperactivity Disorder (ADHD). The study aims at assessing at exploring whether speech features can be used to classify BD and ADHD. Starting from voice signals recorded during verbal fluency tests (VFT), speech features were extracted and investigated through unsupervised and supervised classifiers.

- *February 2019 – July 2019*

Erasmus + Program, Exchange Student at the Technische Universiteit Delft, Delft, The Netherlands.

- *April 2017*

Bachelor's Degree in Biomedical Engineering, University of Pisa, Italy, 97/110.

- **November 2016 – March 2017**

Bachelor Thesis in Biomedical Engineering, University of Pisa.

Thesis titled: “CLARITY vs ACT-PRESTO: characterization of the clarification methods for whole murine brains”, carried out at the Interdepartmental Research Center “E. Piaggio” of Pisa.

The aim of this thesis was to compare the performance of the two most used clarification methods (i.e. CLARITY and ACT-PRESTO) and to evaluate the optimum clearing time. Clarification methods are used to unravel mammal brain connectivity. Murine brains were clarified using both the protocols and the “goodness” of clarification was evaluated by analyzing the bulk tissue clarification index (BTCi) and the loss of protein within the tissue.

- **July 2011**

High school diploma in Scientific High School “E. Mattei”, Castrovillari (CS), Italy, 96/100

COMPETENCES

-INFORMATICS-

Programming languages: C, C++, Matlab, Bash.

Softwares: Microsoft Office tools (Word, Power Point, Excel), LaTeX, Matlab, Simulink, Arduino, SolidWorks, Comsol, Ansys, Abaqus, LabVIEW, BioVoice, Kaldi, Dockerfile.

-LINGUISTICS-

English – C1 || French – A2

Linguistic experience(s)

February 2019 – July 2019

Erasmus + project

Language: English

Duration of studies: 6 months

Foreign country: Technische Universiteit Delft, Delft, Netherlands

CERTIFICATES

- **November 2010**

Trinity - Grade 8, Trinity College London, B2.2 with merit, Brighton, England

- **March 2010**

PET – Preliminary English Test, University of Cambridge ESOL Examinations, Grade B2, British School of English, Castrovillari (CS), Italy,

CONFERENCES

- **December 17-19, 2019**

11th International Workshop on *Models and Analysis of Vocal Emissions for Biomedical Applications*, **MAVEBA**, Firenze, Italy

OTHER INFORMATIONS

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