Clara Fazzari

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Citizenship: Italy   **GitHub**: github.com/claramella

Short Bio

Master student in Bioinformatics with hands-on experience in computational neuro-anatomy and evolutionary genetics. Looking to apply my programming and data analysis skills to bioinformatics research or pharmaceutical data science.

Education

Medical University of Vienna   Vienna, Austria

Center for Brain Research, Div. of Neuronal Cell Biology   Haubensak lab

Erasmus+ Traineeship - Master Thesis Internship   Sept 2023 – Feb 2024

Supervisors   Univ.-Prof. Wulf Haubensak, Dr. Lukasz Piszczek

Thesis   Retracing the evolution of the human socio-affective traits through computational archaeology

Università degli Studi di Roma Tor Vergata   Rome, Italy

Master's Student in Bioinformatics   2020 – Present

Università di Pisa   Pisa, Italy

Bachelor Degree in Biological Sciences   2020

Thesis   Potential application of liquid biopsies in Multiple Myeloma patients

Grade (Italian)   87

Relevant Exams

Laboratory of Programming

Developed an application in C and Python, implementing complex algorithms for analytical tasks.

Biomedical Statistics

Basic theoretical and practical probabilistic and statistical methods and models used in bioinformatics.

Synthetic Biology and Bioimaging

Synthetic biology fundamentals, including biological circuits (switches, oscillators, communication systems); enabling technologies (BioBricks, Golden Gate, Gibson assembly); synthetic genome construction (syn1.0, syn2.0, syn3.0); and bio-imaging techniques for protein interactions and circuit monitoring.

Elements of machine learning methods - attended classes
Bayesian statistics and learning, graphical models, Bayesian networks, supervised learning, regression (linear and nonlinear), regularization, feature selection, linear classification (Fisher LDA, perceptron), naive Bayes, generative models for classification, discriminative models for classification (logistic regression), support vector machines, and kernel methods.

Projects

Programming project
Python programming group project - Github link
Personal Key Indicators of Heart Disease: We used data from the 2020 annual CDC survey, which includes health information from 400,000 adults, and applied machine learning methods to detect patterns that can predict a patient's condition.

Work experience

Poster presenter   25-29 June 2024
FENS Forum 2024   Vienna, Austria
Presented a research poster based on my master thesis at the conference, engaging with peers and experts in the field.

Master thesis intern   Sept 23 - Feb 24
Division of Neuronal Cell Biology at the Medical University of Vienna
Thesis   Retracing the evolution of the human socio-affective traits through computational archaeology
The project explores the evolution of the human brain over 60 million years, overcoming challenges related to the inaccessibility of ancient ancestors' brains. Building on previous work, the aim is to adapt scripts for analyzing the functional features of archaic brains using new computational resources and expanding data sets.

Science Communicator   2015-2020
Associazione studentesca MaDE@DM   Pisa, Italy
I organized exhibitions, workshops, and scientific dissemination events with the MaDE@DM student association. I held the position of president of the association in 2018.

Volunteer   11-14 Oct 2018
Associazione Fare Spazio Ai Giovani   Pisa, Italy
Supporting the organization of the "Internet Festival 2018": welcoming and assisting visitors.

Botanical guide   15-21 July 2019
Associazione Aquilegia   Villa Collemandina (LU), Italy

Management and Visitor's Guide of the Maria Ansaldi Botanical Garden at Pania di Corfino in the Tuscan Apuan Alps. Responsibilities include welcoming visitors and providing guidance throughout their visit to the Botanical Garden.

Science Communicator   27 Oct - 6 Nov 2016
Associazione Festival della Scienza   Genoa, Italy
Guiding visitors and explaining content and workshops at the scientific exhibition of the 'Festival della Scienza 2016'.

Laboratory of experimental biology   2016
Laboratory report - link   Department of Genetics at the University of Pisa
Analysis evaluation of the chromosome counting of cells blocked in metaphase, obtained by treatment of a lymphocyte culture with a genotoxic agent; comparing the results with those obtained from untreated lymphocytes of the same culture.

Skills

Technical
Proficient in: R, Python, C, Ruby, Bash, MATLAB, PHP, HTML, CSS, SQL, Markdown, and LaTeX.

Bioinformatics tools
Proficient in using basic bioinformatics tools and software such as Cytoscapes and CellDesigner.

Languages
Italian (mother tongue), English (advanced), French (scholastic).

Soft skills

Communication (writing/speaking)
Scientific presentations, exhibitions, and workshops organization.

Teamwork, Organizational
Able to work as part of a team, organize virtual meetings, open to criticism, and manage conflicts.

Problem-solving, Stress and Time management
Critically adapt projects to changes, address problems and deal with deadlines.

Other interests

I love music and have been a soprano in the choir at the Università di Pisa for two years. I also enjoy reading novels and science books, listening to podcasts, beading, and crocheting. Additionally, I like walking in nature and spending time outdoors.