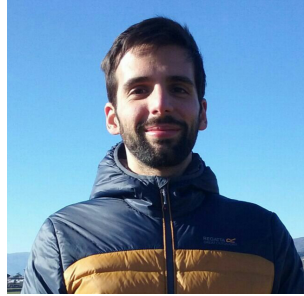


EMILIO BERTI



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PROFILE SUMMARY

I am a theoretical ecologist with a passion for math and computing. I am a very **fast learner** and I have worked in many different fields of biology, from the microscopic scale of muscle physiology to the global scale of vertebrates macroecology. I have an **exceptional quantitative background**, with expertise in mathematical and statistical modelling of complex systems using **big databases** at large spatio-temporal scales. I am familiar with **traditional statistical methodologies**, e.g. linear regression, and with cutting-edge tools such as **machine learning**. I have **outstanding programming skills**, particularly in optimizing large computations using **GIS**. I am fluent in writing and spoken English skills and I have good communication skills in scientific and daily settings. I can propose and develop new ideas independently, but I have also a very **collaborative** personality. In my spare time, I enjoy Baroque music and the two most popular activities of my hometown: cycling and wine tasting.

EDUCATION

PhD student at Aarhus University

February 2017 - January 2020

Section of Ecoinformatics and Biodiversity
Department of Bioscience
Aarhus, Denmark

Visiting PhD student at the University of Chicago

Fall 2018

Department of Ecology and Evolution

MSc cum laude in Biology

2013 – 2016

University of Florence, Italy

Department of Ecology and Evolution

“Analysis of movement patterns and aggressive behaviour in two *Lasius* ants (*Hymenoptera: Formicidae*) by means of mathematical models”

BSc in Biology

2009 – 2012

University of Florence, Italy

Department of Physiology

“The role of miopalladin in muscle fiber contraction”

SKILLS

Programming

R (expert), bash (expert), python (proficient), C (proficient), julia (proficient), sqlite (proficient)

Software

Linux/GNU, Rstudio, Juno, Anaconda, Jupyter, QGIS, L^AT_EX, Markdown, Pandoc, Git version control,

Atom IDE, Sublime text, GitHub, Bitbucket, Overleaf

Methods

Statistics, regression analysis, effect sizes, mixed models, variables selection, PCA, ordination and classification, optimization, machine learning, network analysis, mathematical modelling, extrapolation and forecasting, species distribution models, environmental niche modeling, spatial modeling, geographic information systems (GIS), demographic projections, quantitative genetic, data visualization, APIs, automation.

Language

Italian (native), English (fluent)

POSTGRADUATE COURSES

“Species Distributions Modelling” – Evora, Portugal *2019*

Methods and applications of modelling niche of species: machine learning, random forest, decision trees, generalized additive models, maximum entropy, support-vector machine, generalized linear models.

“Mixed models” – Aarhus University, Denmark *2019*

Theory and applications of generalized linear mixed model framework for statistical analysis.

“Writing and Speaking English” – Aarhus University, Denmark *2019*

Introductory course on writing in English for scientific audience and on oral presentations in international settings.

“Mediterranean School of Complex Networks (MSCx)” – Salina, Italy *2017*

Introductory course on complex network with applications to physics, social sciences, ecology, and agent-based modelling.

TEACHING & ORGANIZED WORKSHOPS

Teaching Assistant

I was employed as teaching assistant by Aarhus University and taught mainly practical and laboratory classes for:

- Statistical and Geospatial Modelling (2019)
- Behavioural Biology (2018, 2019)
- Geographic Information System (2017)

Organized Workshops

I hosted the workshop:

- A (very) gentle introduction to Linux

I prepared the code for the workshops:

- Cleaning online repository data for use in biogeography and macroecology
- Running a species distribution model in R

REFERENCES

References are available upon request.