Federico Concas

T: +447902484266 | @: fed.concas@live.com
W: www.concas.tech

Skills

- Statistics
- Machine Learning and Big Data
- R, RStudio and RMarkdown
- Biotechnology background

Education

Current:

Sep 2018 – Sep 2019 **Data Analytics MSc, University of Glasgow – expected grade: Distinction**
Including Big Data Analytics, Machine Learning, Generalized Linear Models, Statistical genetics, SAS and a research project on classifying Raman Spectroscopy data.

Past:

Sep 2014 – July 2018 **Industrial Biotechnology BSc, University of Cagliari – 110/110 cum laude**
Including courses in Molecular biology, Industrial Microbiology, Virology, Genetics, Hygiene and Environmental Bioengineering.

Sep 2008 – June 2014 **Italian high school qualification, Liceo Scientifico A. Pacinotti, Cagliari**

Sep 2011 – July 2012 **American high school certificate, Lewis and Clark HS, Spokane, USA**

Research experience

May 2019 – August 2019 **MSc dissertation, University of Glasgow**
"Finding the best-performing classifier of bacterial metabolic states for Raman spectroscopy data and comparing linear algorithms to non-linear algorithms."

- Pre-processed Raman spectroscopy data
- Deployed Elastic Net Multinomial Logistic regression with and without a PCA pre-processing step, Support vector machines with different kernels, and Random forest, on two different data sets
- Performed a benchmark amongst the algorithms by using Nested Cross-Validation
- Proved with a Bayesian hierarchical test that the best-performing algorithms are linear
- Created figures and summaries of the results
- Presented the project to a board of reviewers
- Trained the models for predictive analytics
- Used R, RStudio and RMarkdown throughout the project
- Wrote a dissertation

September 2017 – April 2018 **Undergraduate dissertation, University of Cagliari**
"*Establishing a protocol to enumerate and identify the root microbiota of barley (Hordeum vulgare).*"

- Pre-processed the 16S rRNA sequences obtained during the internship at the James Hutton Institute to compare
- Calculated the nucleotide sequence similarity

- Wrote a dissertation

March 2017 – July 2017 **Internship, James Hutton Institute + University of Dundee, Dundee**

- Planned an experiment, involving the sowing of plants and the extraction of their rhizosphere
- Plated microbial colonies and collected raw data
- Collected data about plant health and growth
- Performed PCR and purification of nucleic material
- Executed the analysis in R and RStudio
- Confirmed, with a culture-dependent approach, the presence of specific families of bacteria in the rhizosphere.

Certifications

October 2018 **Statistical Business Analyst using SAS® 9**

October 2018 **Base Programmer for SAS® 9**

Work History

March 2014 – July 2017 **Online marketing manager**

- Evaluated return-on-investment and profit-loss projections
- Compiled comprehensive lists describing product and service offerings
- Managed the complete redesign and launch of the company's website
- Created an official company page on Facebook, Twitter and Google+ to facilitate interaction with customers
- Managed the in-house advertising program (business cards, posters, ...)

Associations

June 2016 – April 2018 **President of the student association of my course**

- Organised and contributed to relevant conferences and events.
- Managed a page on Facebook to promote events.
- Organised educational trips to local forests for approximately 25 people.

Social

Jan 2012 – 2017 **Scout leader**

- Supported children's emotional and social development with one-on-one attention
- Maintained a safe, clean and constantly supervised play environment
- Created weekly plans for activities

Hobbies

- Hiking and camping
- Reading
- Cooking