

# Emanuele Tamponi | PhD



## Education

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### University of Cagliari

*PhD in Electronic and Computer Engineering, A grade*

2012–2015

Thesis: *Dataset Analysis for Classifier Ensemble Enhancement.*

Research in: data analysis, data complexity, machine learning, pattern recognition, ensemble methods, hierarchical classification. Applied research in bioinformatics: prediction of protein secondary structure, classification of single nucleotide variations, functional classification of genes. Coded in Java and Python.

### University College London

*Visiting PhD Student*

2014 Feb–May

Visiting studentship at the Institute of Structural and Molecular Biology. Application of a novel ensemble training and selection algorithm (to be published) on classification of single nucleotide variations and on the UCI dataset repository.

### University of Cagliari

*MEng in Electronic Engineering, 110 cum laude*

2009–2011

Thesis (in Italian): *Studio e Sperimentazione di Metriche per la Valutazione di Codifiche in Problemi di Apprendimento Supervisionato.*

Significant courses: Software Engineering, Artificial Intelligence, Pattern Recognition, Numerical Analysis II, Operations Research, Image Processing, Operating Systems.

### University of Cagliari

*BEng in Electronic Engineering, 110 cum laude*

2006–2009

Thesis (in Italian): *Studio e Sperimentazione di un Sistema per la Predizione di Strutture Secondarie di Proteine Basato sul Consenso tra Esperti Eterogenei.*

Significant courses: Object-Oriented Programming Languages I & II, Object-Oriented Programming in Python, Databases, Numerical Analysis I.

## Experience

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### Fog Creek Software

*Software Engineer*

January 2015–now

Full-stack software engineer. I have worked both in the consolidated FogBugz project and in various new projects inside the company. Coded mostly in C#, JavaScript and Go.

### Google

*Summer of Code Project: Painterly features for Krita*

Summer 2007

Development of an algorithm (the first and only of its kind) that converts a color between RGB colorspace and a special *Kubelka-Munk colorspace*, capable of describing pigments in a realistic way.

### Google

*Summer of Code Project: Bezier and Scissors Tools for Krita*

Summer 2006

First serious experience with C++/Qt, I have learnt to deal with a large open source software project and to use version management systems (KDE used Subversion at the time).

## Programming & Machine Learning Skills

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**Highly proficient:** Python, C#, Javascript, Go

**Familiar:** C/C++, Java, Linux and Windows Shells, HTML/CSS

**Technologies:** Node.js, ASP.NET MVC, (No)SQL, AWS

**ML/Numerical libraries:** Scikit-Learn, Weka, Numpy/Scipy/Pandas

## Languages

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**Italian:** Native speaker

**English:** Professional working proficiency

## Publications

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Giuliano Armano and Emanuele Tamponi. Assessing encoding techniques through correlation-based metrics. In *11th International Conference on Machine Learning and Applications (ICMLA 2012)*, volume 1, pages 634–639, 2012.

Giuliano Armano and Emanuele Tamponi. Devising and experimenting correlation-based metrics for evaluating the effectiveness of input encoding techniques in prediction tasks. *EMBnet.journal*, 18(A), 2012. (Abstract).

Giuliano Armano and Emanuele Tamponi. Exploiting correlation-based metrics to assess encoding techniques. In *ICPRAM 2013 - Proceedings of the 2nd International Conference on Pattern Recognition Applications and Methods, Barcelona, Spain, 15-18 February, 2013*, pages 308–314, 2013.

Giuliano Armano and Emanuele Tamponi. Experimenting multiresolution analysis for identifying regions of different classification complexity. *Pattern Analysis and Applications*, pages 1–9, 2015.

Giuliano Armano and Emanuele Tamponi. Multiresolution complexity analysis: a novel method for partitioning datasets into regions of different classification complexity. In *ICPRAM 2015 - Proceedings of the 4th International Conference on Pattern Recognition Applications and Methods, Lisbon, Portugal, 2015*.

Emanuele Tamponi. A realistic color model for representing pigment. Talk at Libre Graphics Meeting 2008, Wrocław, May 2008.

Emanuele Tamponi. *Dataset Analysis for Classifier Ensemble Enhancement*. PhD thesis, PhD School in Information Engineering, 2015.