Magdalena Navarro Torres Arpi

Applied Mathematician · Data Scientist

magdalena.nta@gmail.com magdalena90 magdalena-navarro-torres-arpi-751b63131

Education

University of Edinburgh *2017-2018*

MSc. in Data Science with specialization in Machine Learning and Bioinformatics

GPA: 7.65 out of 10 (graduated with distinction and received the Class Prize)

Instituto Tecnológico Autónomo de México (ITAM) *2009 - 2014*

BSc. in Applied Mathematics with major in Numerical Optimization and Statistical Learning

GPA: 8.74 out of 10 (graduated with special mention)

Experience

Sinnia, Social Data Scientists *May 2015 - August 2017*

Software Developer

- Front end development
- Development of ML algorithms for text analysis, predictive modelling, data segmentation and data visualization
- Modelling and analysis of social network graphs
- Project Manager for the Development area
- Head of the Social Responsibility committee for the Ingenia Agency group

Banamex, Citi Bank *Nov. 2014 - May 2015*

Special Analysis Analyst for the SMEs' Decision Management area

Profiling and segmentation of customers for marketing campaigns, creation of metrics for campaign performance.

Brain Research Unit, Aalto University *June - August 2014*

Research Assistant in computational neuroscience internship

Project: Analysis and Modelling of Neural Patterns Underlying Brain Activity Response

Description: Adapt the algorithm proposed in Temporal Collaborative Filtering with Bayesian Probabilistic Tensor Factorization to an MEG study in order to infer hidden patterns underlying brain activity responses and extract structure from groups of concepts

Related Activities

MSc Dissertation *June - August 2018*

Profiling Gene Expression in the Brain for Insight into Neurological Disease

Study of two gene expression databases with different analytical tools to find underlying structures that provide insights into the genetic variations of Autism Spectrum Disorders and ageing. Groups of relevant genes were identified using differential expression analysis as well as module detection in correlation networks, the results were interpreted using enrichment analysis and tested for relevance by contrasting them to known human genes associated to autism.

Informatics Research Review *2017 - 2018*

Positive-Unlabelled Learning and other ML Methods for Disease Gene Identification

Overview of the machine learning perspective of the disease gene identification problem, examining some state-of-the-art methods used, and focusing mainly on the Positive-Unlabelled learning for disease gene identification (PUDI) algorithm proposed by Yang

BSc Dissertation with special mention *2014 - 2016*

The Ellipsoidal Method and other Classification Methods

- Implementation of a numerical optimization algorithm to find the John-Löwner Ellipsoid and application as a classification method
- Performance comparison with seven of the most popular Machine Learning classification methods

Article in ITAM Mathematics Department Magazine Laberintos e Infinitos *Fall 2015*

PU Learning: Statistical Learning with one given class (Translated article)

Theory and implementation of the Biased Support Vector Machine algorithm and application to a wine classification problem

Credited courses by coursera.org and edx.org *2013 - present*

- Algorithms for DNA Sequencing - JHU
- Introduction to Genomic Technologies - JHU
- Scalable Machine Learning - Berkeley
- Introduction to Big Data with Apache Spark - Berkeley
- Machine Learning - Stanford
- Data Analysis - JHU

Programming

Languages R, Python, Matlab, SQL, Bash, Ruby, HTML5+CSS, JavaScript

Tools/Frameworks Git, Latex, Shiny, Flask, D3, Bootstrap, Hadoop