

Dr. Alvaro Perez-Diaz

PERSONAL DETAILS

Nationality Spanish
Website <http://www.alvarop.me>, <https://github.com/alvaropp>
Email cv@alvarop.me

WORK EXPERIENCE

Research Data Scientist Oct 2019-
Senseye.io

Working on data science and machine learning products involving both research and software implementation.

Research Data Scientist (Internship) Jan-Apr 2019
Senseye.io

Data science work on unsupervised learning and anomaly detection. This involved research and software implementation of data science products.

External consulting 2018
S&P Platts, BlockLab.nl

Academic consulting and participation in an industrial innovation project looking at smart-grid technology. Responsibilities included advising on design decisions and actively working with developers.

EDUCATION

Ph.D. Program in Computer Science 2015-2019
University of Southampton (UK)

Supervisors: Dr Enrico Gerding and Professor Frank McGroarty

My PhD thesis focused on the interaction between large fleets of electric vehicles and electricity markets, employing techniques from the fields of mathematical optimisation, mechanism design, game theory, decentralised multi-agent systems, blockchain and machine learning. We have published this research in top conferences and journals, as detailed in the publications section

Research Interests: Multi-Agent Systems, Decentralised Multi-Agent Systems, Mathematical Optimisation, Game Theory, Mechanism Design, Forecasting, Machine Learning, Smart-Grid.

MSc Complex Adaptive Systems

2nd year Erasmus Mundus Master in Complex Systems Science 2014-2015
Chalmers University of Technology (Sweden)

First Class Honours.

Master Thesis: *The Minority Game: evolution of strategy scores* with Dr Mats Granath.

MSc Complexity Science

1st year Erasmus Mundus Master in Complex Systems Science 2013-2014
University of Warwick (UK)

First Class Honours.

Master Thesis: *Ultrasonic transducers: From analytical modelling to design optimisation and validation* with Dr Nishal Ramadas.

MPhys. Fundamental Physics 2009-2015
Universidad Nacional de Educación a Distancia (Spain)

Erasmus Exchange Program in Mathematics 2011-2012
University of Manchester (UK)
First Class Honours.

MMath. Mathematics 2008-2013
Universidad Complutense de Madrid (Spain)
First Class Honours.

PUBLICATIONS

Journal papers:

- Perez-Diaz, A., Gerding, E., McGroarty F. *Detecting Strategic Manipulation in Distributed Optimisation of Electric Vehicle Aggregators*. arXiv:1810.07063 (2018).
- Martinez-Cillero, R., Willcock, S., Perez-Diaz, A., Joslin, E., Vergeer, P., Peh, K. S-H. *A practical tool for assessing ecosystem services enhancement and degradation associated with invasive alien species*. Ecology and Evolution, 9(7) (2019).
- Perez-Diaz, A., Gerding, E., McGroarty F. *Coordination and payment mechanisms for electric vehicle aggregators*. Applied Energy, 212:185-195 (2018).
- Granath, M. and Perez-Diaz, A. *Diffusion and localization of relative strategy scores in the Minority Game*. Journal of Statistical Physics, 165(1):94-114 (2016).

Conference papers:

- Gerding, E., Perez-Diaz, A., Aziz, H., Gaspers, S., Marcu, A., Mattei, N., Walsh, T. *Fair Online Allocation of Perishable Goods and its Application to Electric Vehicle Charging*. In Proc. of the 28th International Joint Conference on Artificial Intelligence (IJCAI 2019).
- Perez-Diaz, A., Gerding, E., McGroarty F. *Coordination of Electric Vehicle Aggregators: A Coalitional Approach*. In Proc. of the 17th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2018).
- Perez-Diaz, A. *Coordination of Electric Vehicle Aggregator Participation in the Day-Ahead Market*. In Proc. of the 17th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2018). Doctoral Consortium.
- Perez-Diaz, A., Gerding, E., McGroarty F. *Decentralised Coordination of Electric Vehicle Aggregators*. In International Workshop on Optimization in Multiagent Systems (OptMAS-18).

SKILLS

<i>Languages</i>	Spanish (mother tongue), English (fluent)
<i>Programming</i>	PYTHON (proficient) C, JAVA, MATLAB, R (prior experience)
<i>Other</i>	Electronics, product prototyping, web development, writing
<i>Hobbies</i>	Outdoors, running, cycling, adventure, travel