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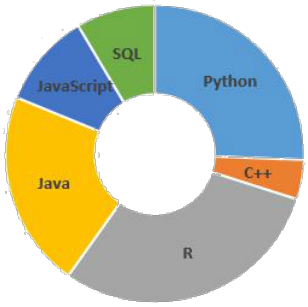
## Web & Git
bitbucket.org/cjferba
github.com/cjferba
kaggle.com/cjferba

## Research
Publons
Google scholar
Researchgate


## Programming




## OS Preference
**GNU/Linux** ★★★★★
**Unix** ★★★★☆
**MacOS** ★★☆☆☆
**Windows** ★★★★☆

## Personal Skills


# Carlos J. Fdez. Basso

Data scientist

Carlos Fernández-Basso received the degree in computer science, the M.Sc. degree in data science and PhD in Computer Science from the Universidad de Granada, in 2014, 2015 and 2020, respectively, where he is currently working in topics about energy eficiency and cibercrime. He was a Lead Developer in the EU FP7 Project Energy IN TIME in the topics of building simulation and control, data analytics, and machine learning. He also collaborates with the Data Science Institute (Imperial College London) where he has carried out research stays, from 2016 to 2018. He is currently a Research Assistant with the Computer Science and Artificial Intelligence Department, Universidad de Granada.

## Experience

04/19 - Now **assistant professor** University of Granada, Granada, España
Department of Languages and Computer Systems

04/19 - Now **Data Science** University of Granada, Granada, España
Extraction of information from large data sets using machine learning tools for cyber security and cyber crime
Project: COPKIT

19 - Now **International journal reviewer**
Expert reviewer in Big Data, Machine learning, Energy efficiency. Journals: IEEE Access (web) ; Energies (web) ; SYMMETRY-BASEL (web)

09/18 - 12/18 **Visiting Research Fellow** Imperial College London, London, UK
Development of visualization techniques in environments with massive data sets (Big Data)

11/17 - 4/19 **Data Science** University of Granada, Granada, España
Data mining in large data sets with the use of machine learning tools for energy efficiency
Projects: Energy In Time, Intelligent data analysis for efficient energy management in distributed facilities and PROFICIENT

10/17 - 01/18 **Visiting Research Fellow** Imperial College London, London, UK
Development of machine learning algorithms in Big Data.
Development of visualisation techniques with machine learning methods, in particular association rules using Big Data.

11/15 - 11/17 **Systems management and application development in Big Data** University of Granada, Granada, España
Systems Management for Big Data analysis. Development of applications and algorithms in Big Data, in particular association rules using fuzzy logic.

03/15 - 11/15 **Scholarship introduction to research** University of Granada, Granada, Españas
Implementing Big Data analytic processes by fuzzy association rules using MapReduce and Spark technology.

01/15 - 03/15 **Server Manager** University of Granada, Granada, España
Installation and maintenance of software for Big Data (Cloudera CDH5, OpenNebula).

06/09 - 09/09 **Collaboration scholarship** University of Granada, Granada, España
Computer technical support. Problem solving related to hardware, software and Operating Systems. Management of the internal network.

03/13 - 09/13 **Software Developer** University of Granada, Granada, España
Design and management of a Web in PHP and MySQL with jquery ajax.

# Education

2016 - 2020 **Ph.D. in Computer Science (Cum laude)** University of Granada, Spain
International mention

*Title of the Thesis: "Fuzzy association rule in Big Data."*

2016 - 2017 **Executive Program in Big Data and Business Analytics.** School for Industrial Organisation, Spain
Main subjects: Big Data, Data science, Data mining, Machine learning, Deep Learning, Preprocessing, BusinessAnalytics, NoSQLdatabases
*Title of the Thesis: "Implementing Big Data analytic processes and IoT structure for extracting knowledge in commercial centers." .*

2015 - 2015 **Program of Creation of Technological-based Companies** School for Industrial Organisation, Spain
Main subjects: Marketing, Sales, Finance, Legal and fiscal aspects of the company, Operations, Human resources, Internationalization.
Management skills: leadership, negotiation, creativity.
Competitive innovation. Technology management. Protection and industrial property.

2014 - 2015 **Official Master's Degree in Data Science** University of Granada, Spain
Data scientist and Big Data.
Main subjects: Big Data, Data science, Data mining, Machine learning, Deep Learning, Preprocessing.
*Title of the Thesis: "Implementing Big Data analytic processes by fuzzy association rules using MapReduce and Spark technology." .*

2009 - 2014 **Bachelor's Degree in Computer Engineering** University of Granada, Spain
Programming: Python, Java, Php, C++
Databases: MySQL, MongoDB, Oracle Systems: CentOS, Ubuntu, Windows.
*Title of the Thesis: "Process analysis tool Big Data".*
*This tool allows an analysis of two databases: A NoSQL and other SQL.*

# Certifications

## Places Lived

## Languages

Spanish ★★★★★
English ★★★☆☆

10/2015 **Introduction to Big Data** Coursera. E-learning
*Coursera Verified Certificates, License 9GXZF5S22M36*

12/2015 **Hadoop Platform and Application Framework** Coursera. E-learning
*Coursera Course Certificates, License Z7HE5A5NVVDM*

01/2016 **Introduction to Big Data Analytics** Coursera. E-learning
*Coursera Course Certificates, License AV72RNATNTJC*

01/2016 **Machine Learning With Big Data** Coursera. E-learning
*Coursera Course Certificates, License 94SZC2KYLKXH*

06/2015 **Exploratory Data Analysis** Coursera. E-learning
*This course covers the essential exploratory techniques for summarizing data.*

05/2015 **Programming for Everybody (Python)** Coursera. E-learning
*This course aims to teach everyone the basics of programming computers using Python.*

03/2015 **Mining Massive Datasets** Coursera. E-learning
*This class teaches algorithms for extracting models and other information from very large amounts of data. The emphasis is on techniques that are efficient and that scale well.*

12/2014 **R Programming** Coursera. E-learning
*How to program in R and how to use R for effective data analysis.*

02/2015 **The Data Scientist's Toolbox** Coursera. E-learning
*The main tools and ideas in the data scientist's toolbox*

## Honor

2017 **Award for Best Project in Executive Program in Big Data and Business Analytics.** 1 / 20
Implementation of a Big Data analytical tool to process data from an IoT structure for knowledge extraction in shopping centres.

2015 **Kaggle Otto Challenge** 77 / 3514
Applications of science applied to data Kaggle competitions -Top 10% in Otto Group Product Classification Challenge. 77th .

## Projects

May 2018 – Present **COPKIT** Intelligence-led Early Warning (EW) / Early Action (EA) system for both strategic and operational levels
The COPKIT project focuses on the problem of analysing, investigating, mitigating and preventing the use of new information and communication technologies by organised crime and terrorist groups.
see project

2017 - Present **PROFICIENT** Deep Learning for Energy-Efficient Building Control
PROFICIENT aims at solving these issues by developing novel deep reinforcement learning techniques capable of: (1) learning a more efficient predictive model of the building from sensor data; and (2) optimizing the

computation of operational plans without using heuristic knowledge.
see project

] **Intelligent data analysis for efficient energy management in distributed facilities**

2018-now

PROFICIENT PROFICIENT is a 2-year project funded by the EXPLORA programme of the Spanish Ministry of Science, Innovation and Universities in 2018-2020 (TIN2017-91223-EXP). Machine learning, Big Data, Eficiencia energetica, Deep Learning, Data Preprocessing

Nov 2017 – May 2018 **Intelligent data analysis for efficient energy management in distributed facilities** Intelligent data analysis for efficient energy management in distributed facilities
Machine learning, Big Data, Eficiencia energetica, Deep Learning

2015-2017 **Energy IN TIME** Energy IN TIME is a Large-scale integrating project within the 7th Framework Programme FP7-NMP, Sub-programme EeB.NMP.2013-4
Simulation-based control for Energy Efficiency building operation and maintenance

# Publications and Congresses

Organize Special session in IPMU 2020
**Fuzzy methods in Data Mining and Knowledge Discovery.**
*18th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems. Lisbon, Portugal, June 15th – 19th 2020*

Diaz-Garcia, J. A., Fernandez-Basso, C., Ruiz, M. D., Martin-Bautista, M. J.(2020, June).
**Mining Text Patterns over Fake and Real Tweets.**
*In International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (pp. 648-660). Springer, Cham.*

Fernandez-Basso, C., Ruiz, M. D., and Martin-Bautista, M. J. (2020)
**A fuzzy mining approach for energy efficiency in a Big Data framework.**
*IEEE Transactions on Fuzzy Systems.*

Gómez-Romero, J., Fernández-Basso, C. J., Cambronero, M. V., Molina-Solana, M., Campaña, J. R., Ruiz, M. D., and Martin-Bautista, M. J. (2019)
**A probabilistic algorithm for predictive control with full-complexity models in non-residential buildings**
*IEEE Access, 7, 38748-38765.*

Fernandez-Basso, C., Francisco-Agra, A. J., Martin-Bautista, M. J., and Ruiz, M. D. (2019)
**Finding tendencies in streaming data using Big Data frequent itemset mining**
*Knowledge-Based Systems, 163, 666-674.*

Fernandez-Basso, C., Ruiz, M. D., Delgado, M., and Martin-Bautista, M. J.
**A comparative analysis of tools for visualizing association rules: A proposal for visualising fuzzy association rules**

*Prague, September 9-13, 2019*


Fernandez-Bassso, C., Ruiz, M. D., Martin-Bautista, M. J. (2018, June).
**Fuzzy association rules mining using spark.**
*In International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (pp. 15-25). Springer, Cham.*

C. Fernandez-Basso
**EiT integrated solutions for building control Data mining to improve building operation Generating automatic operational plans**
*World Sustainable Energy Days 2017, Wells, Austria, 1-3 Mar, 2017*

C. Fernandez-Basso, M. Dolores Ruiz and Maria J. Martin-Bautista
**Extraction Of Association Rules Using Big Data Technologies**
*International Conference on Big Data, Alicante, Spain, 3-5 May, 2016*

C. Fernandez-Basso, M. Dolores Ruiz and Maria J. Martin-Bautista
**Reglas de Asociacion Difusas en Big Data**
*XVIII Congreso Español sobre Tecnologías y Lógica Fuzzy. ESTYLF 2016, San Sebastian, España, 25-27 May, 2016*

Gómez-Romero, J., Ruiz, M.D., Fernández-Basso, C., Molina-Solana, M., Ros, M. and Martin-Bautista, M.J.
**Advances in Data Science for Building Energy Management**
*publication description 9th International Conference Improving Energy Efficiency in Commercial Buildings and Smart Communities (IEECBSC'16), Frankfurt, Deutschland, 16-18 Mar, 2016*