



CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

CV date 11/10/2023

First name	Javier		
Family name	Arroyo Gallardo		
Gender (*)	Male	Birth date	
ID number			
e-mail	javier.arroyo@fdi.ucm.es	Google Sch.	Publons. Web.
Open Researcher and Contributor ID (ORCID) (*)		0000-0001-6127-7538	

(*) Mandatory

A.1. Current position

Position	Associate Professor (Profesor Titular de Universidad)		
Initial date	23/03/2021		
Institution	Universidad Complutense de Madrid (UCM)		
Department/Center	Dpto. Ing. Software e Inteligencia Artificial. Facultad de Informática		
Country	Spain	Teleph. number	913947567
Key words	Data Analysis, Forecasting, Machine learning, Online Communities, Finance		

A.2. Previous positions (research activity interruptions, art. 14.2.b)

Period	Position/Institution/Country/Interruption cause
2013-2021	Assoc. Prof. (Profesor Contratado Doctor) – Fac. de Informática. UCM
2009 - 2012	Postdoctoral Researcher Juan de la Cierva – Fac. de Informática. UCM
2004 - 2009	Teaching Assistant – Fac. de Informática. UCM
2002 - 2004	FPU Fellowship – Eng. School ICAI. Universidad Pontificia Comillas

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD Computer Science	Universidad Pontificia Comillas. Spain	2008
Eng. Computer Science	Universidad Pontificia Comillas. Spain	2002

Part B. CV SUMMARY (max. 5000 characters, including spaces)

Web of Science – JCR year of publication

Q1	7
Q2	6
JCR articles	19
H-index	12
Citations	477

Number of Sexenios: 3 (Last one: 2017-2022)

PhD Thesis supervised: 2

Google Scholar – 11/2022

H-index	22
Citations	1649

Javier Arroyo is **PhD in Computer Science** since 2008 with a thesis on time series forecasting. In 2009 he was awarded a **postdoc grant Juan de la Cierva** (2009-2012) to research data analysis of the simulation of complex systems in the GRASIA-UCM research group. Since then he has been a researcher in GRASIA-UCM mainly acting as a data science specialist in both European and national projects on agent-based simulation, ambient assisting living and collaborative systems and communities.

Javier has been **PI of the H2020 Fin-Tech project (2019-2021)** on financial technology (big data, blockchain and artificial intelligence) and with a budget of 100,000€. The project involved over 20 partners and a total budget of 2,500,000€. He is also a member of the **Management Committee of the COST Action FinAI (2020-2024)** focused on the intersection of artificial intelligence and fintech. These achievements are the culmination of Javier's interest in finance as an application field that

includes several **JCR articles**, **one PhD supervised** (2017), **two research visits** to the Department of Economics of the University of California Riverside (2009 and 2014), and is member of the **editorial board** of the open-access journal *Frontiers in Artificial Intelligence in Finance*.

The other main research interest of Javier is in **collaborative online communities**. Javier together with Samer Hassan, is **PI in the project DAO Applications (2022-2025)**, which analyzes the activity of Decentralized Autonomous Organizations in the blockchain (DAOs). This project follows the **Retos 2018 Chain Community project (2019-2022)**. Javier has also commanded the development of **open source webapps** to visualize the evolution of wikis (<http://wikichron.science/>) and DAOs (<http://dao-analyzer.science/>). In this line, the Comunidad de Madrid granted Javier **financial support to train two Research Assistants (2016, 2019)** that successfully pushed forward this research line. Javier has also served as **Program co-chair** of the International Symposium on Open Collaboration Opensym 2021 and delivered a **keynote talk** on DAOs at the 3rd IEEE International Conference on Blockchain Computing and Applications (BCCA 2021).

As part of transference activities, Javier has been the **PI of research contracts with private companies** for developing an intelligent system for fraud detection in telecommunications networks (2015), and for predicting startup success for a venture capital firm (2018).

Throughout his career, Javier has successfully collaborated with colleagues from other fields to learn about new disciplines and as a result, he also has **significant publications in diverse fields** such as information retrieval, natural language processing, and computer vision. The quality of Javier's research can also be seen in the **four research awards** that he has obtained in his career at different conferences.

Finally, Javier served as **Deputy Director of the Department of Software Engineering and Artificial Intelligence** of Universidad Complutense de Madrid (2016-2019) and since 2017 as a **reviewer of research programs of the ANEP** (Spanish National Agency for Evaluation and Forecasting).

Part C. RELEVANT MERITS *(last 10 years, selection sorted by typology)*

C.1. Publications (JCR year of publication)

- 1** Andrea Peña-Calvin; Jorge Saldivar, **Javier Arroyo**; Samer Hassan.
A Categorization of Decentralized Autonomous Organizations: The Case of the Aragon Platform
IEEE Transactions on Computational Social Systems (2023).
WOS (JCR): 5.0 Q1 Computer Science, Cybernetics
- 2** Luis Lorenzo, **Javier Arroyo**.
Online risk-based portfolio allocation on subsets of crypto assets applying a prototype-based clustering algorithm
Financial Innovation, 9, 25 (2023).
WOS (JCR): 8.4 Q1 Business, Finance
- 3** Luis Lorenzo, **Javier Arroyo**.
Analysis of the cryptocurrency market applying different prototype-based clustering techniques
Financial Innovation, 8, 7 (2022).
WOS (JCR): 8.4 Q1 Business, Finance Google Scholar citations: 16
- 4** Ambar Tenorio; **Javier Arroyo**; Samer Hassan.
Participation in wiki communities: Reconsidering their statistical characterization
PeerJ Computer Science, 8:e792 (2022).
WOS (JCR): 3.8 Q2 Computer Science, Theory & methods Google Scholar citations: 2
- 5** Miller Ariza; M^a Mar Camacho-Miñano, M^a Jesús Segovia-Vargas, **Javier Arroyo**.
Risk-return modelling in the p2p lending market: trends, gaps, recommendations and future directions
Electronic Commerce Research and Applications, 49, 101079. (2021).
WOS (JCR): 5.622 Q1 Computer Sciences, Information Systems Google Scholar citations: 10
- 6** Miller Ariza; **Javier Arroyo**; Antonio Caparrini; M^a Jesús Segovia.
Explainability of a Machine Learning Granting Scoring Model in Peer-to-Peer Lending
IEEE Access, 8, pp. 64873 - 64890. (2020).
WOS (JCR): 3.367 Q2 Computer Sciences, Information Systems Google Scholar citations: 84
- 7** **Javier Arroyo**; Francesco Corea; Guillermo Jiménez-Díaz; Juan A. Recio-García.
Assessment of machine learning performance for decision support in venture capital investments
IEEE Access, 7, pp. 124233-124243. (2019).

WOS (JCR): 3. 3745 Q1 Computer Sciences, Information Systems

Google Scholar citations: 67

- 8 Rodrigo Naranjo; **Javier Arroyo**; Matilde Santos.
Fuzzy modeling of stock trading with fuzzy candlesticks.
Expert Systems with Applications. 93, pp. 15 - 27. (2018).
WOS (JCR): 6.954 Q1 Computer Sciences, Artificial Intelligence Google Scholar citations: 43
- 9 **Javier Arroyo**; María Guijarro; Gonzalo Pajares.
An instance-based learning approach for thresholding in crop images under different outdoor conditions.
Computers and Electronics in Agriculture. 127, pp. 669 - 679. (2016).
WOS (JCR): 2.201 Q2 Computer Science, Interdisciplinary app. Google Scholar citations: 47
- 10 Rodrigo Naranjo; Albert Meco; **Javier Arroyo**; Matilde Santos.
An Intelligent Trading System with Fuzzy Rules and Fuzzy Capital Management.
International Journal of Intelligent Systems. 30 - 8, pp. 963 - 983. (2015).
WOS (JCR): 2.05 Q2 Computer Sciences, Artificial Intelligence Google Scholar citations: 19

C.2. Congress

- 1 **Javier Arroyo**; David Davó; Elena Martínez-Vicente; Youssef Faqir-Rhazoui; Samer Hassan.
DAO-Analyzer: Exploring Activity and Participation in Blockchain Organizations
CSCW2022 Companion publication of the Conference on Computer Supported Cooperative Work and Social Computing. ACM, 193-196.
GGs Rating A+ Google Scholar citations: 3
- 2 **Javier Arroyo (Keynote Speaker)**
An overview of Decentralized Autonomous Organizations in the blockchain.
The Third IEEE International Conference on Blockchain Computing and Applications (BCCA 2021)
GGs Rating: *not rated*
- 3 Youssef Faqir-Rhazoui; Miller J. Ariza-Garzón; **Javier Arroyo**; Samer Hassan.
Effect of the gas price surges on user activity in the DAOs of the Ethereum blockchain
Conference on Human Factors in Computing Systems (CHI 2021). EA. ACM, 7p.
GGs Rating A++ Google Scholar citations: 28
- 4 Youssef Faqir-Rhazoui; **Javier Arroyo**; Samer Hassan.
An overview of Decentralized Autonomous Organizations on the blockchain
Proceedings of the 16th International Symposium on Open Collaboration (OpenSym 2020), 1-8
GGs Rating B- Google Scholar citations: 105

C.3. Research projects

- 1 *DAOapplications: Evaluacion de organizaciones autonomas descentralizadas basadas en blockchain para la gestión de proyectos DeFi, NFT y metaverso*
Programa Estatal de Generación de Conocimiento 2021. PID2021-127956OB-I00, (2022-2025)
PI: Javier Arroyo and Samer Hassan. Budget:93,412€
- 2 *FinAI: Fintech and Artificial Intelligence in Finance*
Comisión Europea. Cost Action. CA19130, (2020-2024)
Management Committee Member (Spain): Javier Arroyo
- 3 *Chain Community: Analíticas para las comunidades en la blockchain*
Programa Estatal de I+D+i. Retos Investigación. RTI2018-096820-A-I00, (2019-2022)
PI: Javier Arroyo and Samer Hassan. Budget:18,634€
- 4 *Fin-Tech: FINancial supervision and TECHnology compliance training programme*
Comisión Europea. H2020. H2020-ICT-2018-2, (2018-2021)
U. of Pavia, (coordinator), UCM, Humboldt University of Berlin, Paris I University,...
PI at UCM: Javier Arroyo. Budget:2,500,000€ Budget UCM:100,000€
- 5 *Desarrollo Colaborativo de Soluciones AAL (ColoSAAL).*
Programa Estatal de I+D+i Orientada a los Retos de la Sociedad 2014.
IP: Juan Pavón Mestras y Jorge Gómez Sanz. Role: researcher

6 *Techno-social platform for sustainable models and value generation in commons-based peer production in the Future Internet (p2pValue).*
Comisión Europea. VII Programa Marco. FP7-ICT-2013-610961 (2013-2016)
U. Surrey (coordinator), UCM, CNRS, P2P Foundation, UAB, UMIL.
IP en UCM: Samer Hassan Collado. Role: researcher

7 *Social Ambient Assisted Living - Methods (SociAAL).*
Plan Nacional de I+D+i. TIN2011-28335-C02-01 (2012-2014).
IP: Jorge Gómez Sanz. Role: researcher

8 *Juan de la Cierva Research Grant (2009-2012)*
Ministerio de Ciencia e Innovación **Awardee: Javier Arroyo**

C.4. Contracts, technological or transfer merits

Contracts with private companies

- 1** Proyecto técnico para la valoración de start-ups utilizando técnicas de aprendizaje automático e inteligencia artificial
Four Trees Merchant Partners Budget: 12,512€
PI: **Javier Arroyo Gallardo** 07/2018 - 10/2018
- 2** Sistemas de detección en tiempo real de fraude en telecomunicaciones mediante patrones de comportamiento, análisis estadístico y aprendizaje automático
Stonework Solutions Budget: 24,200€ Role: Researcher
PI: Guillermo Jiménez Díaz 01/2016 - 12/2016
- 3** Diseño de un sistema de firmas para detección de fraude en redes de telefonía
Stonework Solutions Budget: 11,353€
PI: **Javier Arroyo Gallardo** 12/2014 - 02/2015
- 4** Técnicas Inteligentes para la detección de fraude en sistemas de telefonía
Stonework Solutions Budget: 3,593€ Role: Researcher
PI: Juan Antonio Recio García 06/2014 - 09/2014

Open Source Software

- 1** DAO-analyzer. Software to display the evolution of Decentralized Autonomous Organizations. Available at: <http://dao-analyzer.science/> Repository: <https://github.com/Grasia/dao-analyzer> License: GPL-3.0
- 2** WikiChron. Software for visualization of wiki evolution. Available at: <http://wikichron.science/> Repository: <https://github.com/Grasia/WikiChron> License: AGPL-3.0
- 3** knnp: Time series prediction using k-Nearest Neighbors algorithm (Parallel). Available at: <https://cran.r-project.org/package=knnp> Repository: <https://github.com/Grasia/knnp> License: AGPL-3.0. Downloads/month: [223](#).

C.5 Research stays

- 1** Invited researcher at Università degli Studi della Campania Luigi Vanvitelli. Caserta, Italia
Dipartimento di Matematica e Fisica. Dates: 22/10 - 01/11/2017 and 07/01 - 21/01/2015
- 2** Research visit with grant at University of California Riverside. Riverside, Estados Unidos de América
Department of Economics, College of Humanities, Arts, & Social Sciences. Dates: 23/09 - 23/12/2014
- 3** Invited Researcher at Université des Antilles. Guadalupe, Francia.
Département de Mathématiques et Informatique. Dates: 31/05 - 11/06/2014

C.6 Others

- 1** Editor of the journal *Frontiers in Artificial Intelligence in Finance*
- 2** Program chair of Opensym 2021-International Symposium on Open Collaboration (GGS Rating B-)
- 3** Reviewer for the ANEP (Agencia Nacional de Evaluación y Prospectiva) since 2017 in different research programs (PID, Retos Colaboración, Torres Quevedo, and Doctorados Industriales, etc).
- 4** Scientific Secretary of the International Association for Statistical Computing (2013-2015)