

Cristian Martín Fernández

Current Position Postdoctoral Researcher at University of Malaga, Spain
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Professional Experience

18/12/2018 – current **Post-doctoral Researcher**, University of Málaga, Málaga, Spain
06/04/2015 – 17/12/2018 **PhD Candidate**, University of Málaga, Málaga, Spain
01/11/2014 – 5/04/2015 **Research Assistant**, University of Málaga, Málaga, Spain
01/10/2013 – 31/01/2014 **Software Engineering Intern**, University of Málaga – Software for Critical Systems, Málaga, Spain
01/03/2012 – 31/12/2013 **Software Engineer and Independent Contractor**, Aida Centre S.L, Málaga, Spain

International Research Stays

27/01/2020 – 26/06/2020 **Innovations for High Performance Microelectronics (IHP)** research institute, Frankfurt Oder, Germany. Result: *Kafka-ML: a framework for the management of AI/ML applications through data streams.*
15/09/2016 – 15/12/2016 **IDLab research group**, Ghent University-IMEC, Ghent, Belgium. Result: *Appdaptivity: a framework for the development of IoT applications.*

Education

06/04/2015– 17/12/2018 **Ph.D. in Computer Science**, University of Málaga, Málaga, Spain
Advisors: Manuel Díaz and Bartolomé Rubio
Thesis: *IntegraDos: facilitating the adoption of the Internet of Things through the integration of technologies*
30/09/2014 – 16/12/2015 **MS in Software Engineering and Artificial Intelligence**, University of Málaga, Málaga, Spain
Advisors: Manuel Díaz and Bartolomé Rubio
Thesis: *λ -CoAP: An Internet of Things and Cloud Computing Integration Based on the Lambda Architecture and CoAP*
30/09/2009 – 17/07/2014 **BS in Computer Science**, University of Málaga, Málaga, Spain
Advisor: Enrique Soler
Thesis: *A Management, Monitoring and Control System for RFID*

Teaching

01/02/2016 – current

Teaching Assistant/Teaching Fellow Department of Languages and Computer Science, University of Málaga, Málaga, Spain.

Fall 2019	Programming Fundamentals (Practice) Computer Basics (Practice) Software for Embedded Systems and Mobile Devices (Practice)
Fall 2018	Programming I (Theory) Software for Embedded Systems and Mobile Devices (Practice)
Spring 2017	Introduction to Software Engineering (Practice) Programming II (Practice)
Spring 2016	Programming II (Practice) Computing Applied to Public Management (Practice)

07/05/2017 – current

Instructor, University of Málaga, Málaga, Spain
Real-time and Internet of Things Module – Master’s in Advanced Analytics on Big Data.

01/02/2020 – current

Instructor, Fundación General de la Universidad de Málaga, Málaga, Spain
Introduction to the Internet of Things with Arduino, Online course.

01/05/2018–08/10/2019

Instructor, University of Málaga – Samsung Tech Institute, Málaga, Spain
Wireless Communication Technologies Module - Development of Internet of Things Applications Course.

Publications

JCR Peer-Reviewed Journal Publications

- [J8] **Martín, C.**, Alba, I., Trillo, J., Soler, E., Rubio, B and Díaz, M. Providing reliability and auditability to the IoT LwM2M protocol through Blockchain. *arXiv preprint arXiv:2008.06694*, 2020. Submitted to IEEE Internet of Things. 0 cites.
- [J7] **Martín, C.**, Langendoerfer, P., Díaz, M., Rubio and B. Kafka-ML: connecting the data stream with ML/AI frameworks. *arXiv preprint arXiv:2006.04105*, 2020. Submitted to Information Sciences. 0 cites.
- [J6] Cañete, E., Gallego-Martínez, J.J., **Martín, C.**, Brox, M., Luna-Rodríguez, J.J., and Moreno, J. A Low-Cost IoT Device to Monitor in Real-Time Wine Alcoholic Fermentation Evolution through CO2 emissions. *IEEE Sensors Journal*, 2020.
doi: 10.1109/JSEN.2020.2975284 IF: 3.076. 0 cites.
- [J5] Reyna, A., **Martín, C.**, Chen, J., Soler, E., and Díaz, M. On blockchain and its integration with IoT. Challenges and opportunities. *Future Generation Computer Systems*. vol. 88, p. 173-190, 2018.
doi: 10.1016/j.future.2018.05.046 IF: 5.768. **Highly cited:** 471 cites.
- [J4] **Martín, C.**, Hoebeke, J., Rossey, J., Díaz, M., Rubio, B., and Van den Abeele, F. Appdaptivity: An Internet of Things Device-Decoupled System for Portable Applications in Changing Contexts. *Sensors*, vol. 18(3), 1345, 2018.

doi: 10.3390/s18051345 IF: 3.031. 2 cites.

- [J3] Cañete, E., Chen, J., **Martín, C.**, and Rubio, B. Smart Winery: A Real-Time Monitoring System for Structural Health and Ullage in Fino Style Wine Casks. *Sensors*, vol. 18(3), 803, 2018.
doi: 10.3390/s18030803 IF: 3.031. 7 cites.
- [J2] **Martín, C.**, Díaz, M., and Rubio, B. Run-time deployment and management of CoAP resources for the Internet of Things. *International Journal of Distributed Sensor Networks*, vol. 13(3), 2017.
doi: 10.1177/1550147717698969 IF: 1,787. 2 cites.
- [J1] Díaz, M., **Martín, C.**, and Rubio, B. State-of-the-art, challenges, and open issues in the integration of Internet of Things and Cloud Computing. *Journal of Network and Computer Applications*, vol. 67, p. 99-117, 2016.
doi: 10.1016/j.jnca.2016.01.010. **Best 2017 Survey Paper in JNCA** IF: 3,5. **Highly cited:** 514 cites.

International Conferences and Workshops Publications

- [C5] **Martín, C.**, Torres, D.R., Díaz, M., and Rubio, B. FogPi: A Portable Fog Infrastructure through Raspberry Pis. *9th Mediterranean Conference on Embedded Computing MECO'2020 IEEE*, June 8-11, Budva, Montenegro, 2019.
doi: 10.1109/MECO49872.2020.9134320. 0 cites.
- [C4] **Martín, C.**, Garrido, D., Díaz, M., and Rubio, B. From the Edge to the Cloud: Enabling Reliable IoT Applications. *7th International Conference on Future Internet of Things and Cloud (FiCloud 2019)*, IEEE, August 26-28, Istanbul, Turkey. p. 17-22, 2019
doi: 10.1109/FiCloud.2019.00011. 0 cites.
- [C3] **Martín, C.**, Díaz, M., and Rubio, B. An edge computing architecture in the Internet of Things. *20th IEEE International Symposium on Real-Time Computing. IEEE ISORC 2018*. June 29-31. Singapore. p. 99-102, 2018.
doi: 10.1109/ISORC.2018.00021. 14 cites.
- [C2] **Martín, C.**, Chen, J., Díaz, M., Reyna, A., and Rubio, B. SocICoAP: Social Interaction with Supplementary Sensors and Actuators through CoAP in Smartphones. *2017 IEEE 41st Annual Computer Software and Applications Conference (COMPSAC)*, July 4-8, Turin, Italy, vol. 2, p. 672-677, 2017.
doi: 10.1109/COMPSAC.2017.217. 0 cites.
- [C1] Díaz, M., **Martín, C.**, and Rubio, B. λ -CoAP: An Internet of Things and Cloud Computing Integration based on the Lambda Architecture and CoAP. *11th International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2015)*. November 10-11, Wuhan, China, 2015. *Collaborative Computing: Networking, Applications, and Worksharing*, vol. 163, p. 195–206, 2016.
doi: 10.1007/978-3-319-28910-6. 9 cites.

Students Advised

February 2020 – September 2020	Iván Alba García. MS Thesis: <i>A reliable system to manage IoT devices and information through Blockchain.</i>
January 2020 – September 2020	Alejandro Carnero Hijano. BS Thesis: <i>A framework for the flexible deployment of distributed neural networks in the Fog.</i>
February 2019 – 16/07/2019	Stefan Gabor. BS Thesis: <i>A system to define fault-tolerance IoT applications at software and hardware levels.</i>
February 2018 – 16/07/2019	Manuel Granados Molina. BS Thesis: <i>An Edge Computing framework for the development of Internet of Things applications.</i>
January 2018 – 13/07/2018	José Carlos Baena González. BS Thesis: <i>Adaptive access and sharing of resources and sensors through CoAP.</i>

Grants

10/07/2019 – 09/07/2020	1-year postdoc grant founded by the Andalusian Government, Spain
15/01/2016 – 14/01/2019	3-year scholarship founded by the Andalusian Government, Spain, to obtain a PhD in the project MIsTica “Critical Infrastructure Monitoring based on Wireless Technologies”

Service

- **Reviewer**
 - Sensors
 - Applied Sciences
 - Future Generation Computer Systems
 - Journal of Network and Computer Applications
 - Journal of Systems Architecture
 - Simulation Modelling Practice and Theory
 - Concurrency and Computation: Practice and Experience
 - International Journal of Information Technology & Decision Making
 - IEEE Internet of Things Magazine
 - IEICE Transactions on Information and Systems
- **Program Committee**
 - XIX Spanish Real Time Conference, 2016
 - 1st Demo Session on Visualizing Embedded Systems Solutions (VESS), 2019
 - 3rd International Conference on Futuristic Trends in Networks and Computing Technologies FTNCT-2020

Awards

- Journal of Network and Computer Applications 2017 Best Survey Paper

Accreditations

- Assistant Professor (Profesor ayudante Doctor) by the National Agency for Quality Assessment and Accreditation (ANECA) of Spain