YURY ANDREA JIMÉNEZ AGUDELO[1]
Electronic Engineer

RESEARCH INTERESTS

My career has been motivated by a singular and genuine curiosity into what it means to learn from evidence, and in particular from evidence arising from measurements. I have been fortunate enough to both study, but also teach in different universities. I have applied different integrated solutions (hardware and software) to measure (sensors), transmit (data network), storage and analyze data in order to make decisions, in a number of fields ranging from E-health to environmental issues. Most of my research work has been focused on experimental research and data analysis in IoT research projects. I consider myself a methodical professional successful in developing in-depth research projects, with excellent communication and problem-solving skills.

I am expert in different areas such as: Internet of Things, Artificial Intelligence, Data Science, Networks Defined by Software (SDN), programming in Python, MatLab, C++, R, among others. Offering 5-year background supporting students, developing research projects and end-of-degree projects. Commended for sustaining an effective learning environment through prepared classes and relevant assignments and consistently achieving classroom management and academic goals.

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EDUCATION

PhD in Telematics Engineering, Universidad Politécnica de Cataluña (UPC), 2016. Barcelona, España.
Field of research: Software Defined Networking, Optimization algoritms, Design of Metrics, protocol and algorithms (heuristic, deterministic, etc).
Dissertation (in english): Scalability and Robustness in Software-Defined Networking (SDN). Excellent Cum laude.
Advisor: PhD**.** Cristina Cervelló-Pastor

Master in Telecommunication Engineering, Universidad Nacional de Colombia (UN), 2009. Bogotá, Colombia.
Field of study: IP networks, optimization algoritms,
Dissertation; Rate system for IP telecommunication services.
Advisor: PhD. Zoila Ramos Rodriguez.

B.E. Electronic Engineering, Universidad de Cundinamarca, 2006. Fusagasugá, Colombia
Field of study: Networks, services over IP networks, data bases, data transmission.
Dissertation: Design of a network WiMAX to provide Internet Service in rural áreas.

CONFERENCES

A. Baracaldo, **Y. Jiménez**, R. Guzmán. Bayes network model to prevent hypertension. VI CONGRESO INTERNACIONAL DE INNOVACIÓN Y TENDENCIAS EN INGENIERÍA CONIITI 2020, Bogotá, Colombia, Octubre 1-7, 2020.

A. López, **Y. Jiménez,** R. Bareño, B. Balamba, J. Sacristán. E-health system for the monitoring, transmission and storage of the arterial pressure of chronic-hypertensive patients. V CONGRESO INTERNACIONAL DE INNOVACIÓN Y TENDENCIAS EN INGENIERÍA CONIITI 2019. Bogotá, Colombia, Octubre 5-10, 2019.

Y. Jiménez, J. Cordero and C. Cervelló-Pastor. Robustness Metric for SDN Control Layer. IFIP/IEEE International Symposium on Integrated Network Management. Ottawa, Canada, May 1-15, 2015.

A. García, C. Cervelló-Pastor, and **Y. Jiménez.** Diseño SDN/NFV con retardo balanceado entre orquestador, controladores y elementos de red. Jornadas de Ingeniería Telemática, JITEL. Palma Mallorca, p. 76-81, 14-16 Octubre 2015.

Y. Jiménez, C. Cervelló-Pastor and A. García. Principles for designing a distributed control layer for SDN. IFIP Networking 2014 Conference. Trondheim, Norway, 2-5 June, 2014.

A. Garcia, C. Cervelló-Pastor and **Y. Jiménez.** A Modular Simulation Tool of An Orchestrator for Allocating Virtual Resources in SDN. International Conference on System Modelling and Optimization (ICSMO). Barcelona, Spain, February 20-21, 2014.

Y. Jiménez, C. Cervelló-Pastor and A. García. Defining a Network Management Architecture. The 21st IEEE International Conference on Network Protocols. Goettingen, Germany, October 7-11, 2013.

PUBLICATIONS

Y. Jiménez, N. Rodriguez Franco, & M. Rico Martínez. Simulation of a Radio over Fiber link for the transmission of cardio-respiratory diagnostic images of neonates. Ingenium Revista De La Facultad De Ingeniería, 20(40). August 2020. DOI:https://doi.org/10.21500/01247492.4942

Y. Jimenez, C. Cervelló-Pastor, A. Garcia. Dynamic resource discovery protocol for software defined networks. IEEE Communications Letters. Vol. 19, No. 5, pp. 743-746, May 2015. **ISSN** impreso **:** 1089-7798, **DOI:** 10.1109 / LCOMM.2015.2403322

A. García, C. Cervelló-Pastor, and **Y. Jiménez**. A Modular Simulation Tool of an Orchestrator for Allocating Virtual Resources in SDN. International Journal of Modelling and Optimization. Vol. 4, No. 2, pp 88-94, April 2014. **ISSN** 2010-3697, **DOI:** 10.7763 / IJMO.2014.V4.352

A. García, C. Cervelló-Pastor, and **Y. Jiménez**. A Modular Simulation Tool of an Orchestrator for Allocating Virtual Resources in SDN. Journal of Communication and Computer. Vol. 11, pp 88-99, January 2014.

COMPLEMENTARY COURSES

Active methodologies in education. Certificated by Fundación Universitaria Compensar, March, 2021

Data Science and Machine Learning Capstone Project. Certificated by IBM. September, 2020

Course of technological surveillance and competitive intelligence, Asociación Colombiana para el Avance de la Ciencia – ACAC. May, 2019

Entrepreneurship and digital innovation program, IGNITION. December, 2016

RESEARCH PROJECTS AND EVENTS

Prototype for transfer of specialized cardiorespiratory images based on RoF for remote telemedicine.
Researchers: Yury Jiménez Agudelo and Mónica Rico Martinez.
Funded by Universidad Católica de Colombia – Universidad Nacional de Colombia.
Start date: 01/02/2020 End date: 15/12/2020.

"Why does hypertension continue to be a problem in Colombia and how can we contribute to treat and prevent it from engineering?". Speaker: Yury Jiménez. Seminar Social & Health Data Analytics in Amsterdam University. https://amsterdamdatascience.nl/event/seminar-social-health-data-analytics/ , December 2019.

Functional prototype of an E-Health service for the monitoring of chronic hypertensive patients.
*ONLINE PROFILE
CvLAC (Colciencias Colombia, Spanish): https://scienti.minciencias.gov.co/cvlac/visualizador/generarCurriculoCv.do?cod_rh=0001011235
Google Scholar: https://scholar.google.es/citations?user=-PUXffIAAAAJ&hl=es
ORDIC: https://orcid.org/0000-0003-0878-309X

Researchers: Yury Jiménez Agudelo and Alexandra López
Funded by Universidad Católica de Colombia.
Start date: 01/02/2019 End date: 15/12/2019

Hybrid Optical Wireless ARchitecture for Delay/Disruption Tolerant Services (HOWARDS). Researchers: Cristina Cervelló Pastor, Yury Jiménez Agudelo.
Funded by Gobierno español
Start date: 01/01/2011 End date: 01/01/2014

ACADEMIC PROJECTS

Montoya- Wilmer, Fajardo, David and Jiménez Agudelo, Yury. **Electronic prototype that allows monitoring of vital signs as a support alternative in triage classification in emergencies.** 2021. Link:https://repository.ucatolica.edu.co/handle/10983/25541

Sabogal Céspedes, Giovanni and Jiménez   Agudelo, Yury Andrea**. E-health system for the acquisition and storage of physiological variables, obtained from commercial devices, necessary to predict the insulin level.**
2021. Link: https://repository.ucatolica.edu.co/handle/10983/25543

Martínez Villalobos, Wendy Dayane and Jiménez   Agudelo, Yury Andrea. **Development of a prototype for the measurement of PM2.5 particles in the city of Bogotá,** 2021. Link:https://hdl.handle.net/10983/25540

Morales Gámez, Sergio Fabian, Sarmiento Fúquene, Julio Cesar and Jiménez   Agudelo Yury. **Automated Indoor Garden.** 2021. Link:https://hdl.handle.net/10983/25554

Roncancio Carrero, Fabián Steven, Sánchez Hernández, Jaime Antonio and Jiménez Agudelo, Yury Andrea. **Functional prototype for measuring body physiological variables indicating stress,** 2021. Link:https://hdl.handle.net/10983/25547

Elkin Andres Ladino Ordoñez and Yury Jiménez Agudelo. **AGROIOT: Prototype of a WEB system for monitoring agricultural products in urban crops,** 2020. Link: https://hdl.handle.net/10983/24969

Baracaldo Pérez, Raúl Alejandro and Jiménez   Agudelo, Yury Andrea. **E-health system to capture, transmit and store blood pressure status and other relevant data, in order to calculate the probability of suffering from arterial hypertension,** 2020. Link: https://hdl.handle.net/10983/24504

Balamba Camacho, Brayan David, Sacristán Vargas, Juan Estebanand Jiménez   Agudelo, Yury Andrea, 2019. **Functional prototype of an E-Health service for the monitoring of chronic hypertensive patients.** Thesis cum Laudem. Link: https://hdl.handle.net/10983/23503

Ayala Delgado, Camilo Andrés, Lemos Londoño, Diego Alexander and Jiménez   Agudelo, Yury Andrea. **Monitoring system for patients in the surgery area using geolocation,** 2019. Link: https://hdl.handle.net/10983/24031

TEACHING AND PROFESSIONAL EXPERIENCE

Part time professor, Institución Universitaria Politécnico Grancolombiano, 2021-Currently, Bogotá, Colombia.
Courses: Ubiquitous networks in Master in Informatics Engineering
Services: prepare and develop IoT laboratories, and teach theory concepts.

Full time professor and researcher, Fundación Universitaria Compensar, 2021- Currently, Bogotá, Colombia.
Courses: Telematic Services, Management of Services and Servers, Data Network, Theory of information and communications, Algorithm Design.
Services: Thesis examiner, propose and develop research projects.

Full time professor and researcher. Universidad Católica de Colombia, 2019-2021, Bogotá, Colombia.
Courses: Telematic Services, Data Network, Algorithm Design, Research seminary, New Generation Networks (NGN),
Services: Leader research group TelSaf, Leader of research hotbed -SocialTiCs. Thesis examiner, propose and develop research projects.

Part time profesor, Universidad Católica de Colombia, 2018, Bogotá, Colombia.
Courses: Digital Communications, Analog Communication, Optical Fiber, Telecommunications Legislation, New Generation Networks (NGN).
Services: Thesis examiner.

Directed Academic Activity, Universidad Politécnica de Cataluña (UPC), 2013. Barcelona, España.
Courses: Transport networks (Lab)
Services: Implement network devices and solve technical doubts from student.

Assistant Teacher, Universidad Nacional de Colombia (UN), 2008. Bogotá, Colombia.
Courses: Numerical methods, Linear programming.
Services: Implement network devices and solve technical doubts from student.

AWARDS AND HONORS

SHORT-TERM RESEARCH STAY, Visiting researcher, Computer science department Universidad Complutense de Madrid, December 2019. Madrid, Spain.

PhD Thesis title "Scalability and Robustness in Software-Defined Networking (SDN)", Excellent Cum laude Universidad Politécnica de Cataluña, July 2016. **https://upcommons.upc.edu/handle/2117/96601**

Reviewer of scientific articles for the international journal IET Networks and IEEE Transactions.
February 2016 –currently.

SCHOLARSHIP AGAUR-FI-B , Call for FI-AGAUR research staff training grants to carry out the doctoral thesis at the UPC. Start date: 1/07/2011 End date: 30/06/2014.

RESEARCH STAY, Visiting researcher, Computer science department, Catholic University of Louvain (UCL), April-June 2014, Lovaine, Belgium.

SCHOLARSHIP AGAUR-AAD, Scholarship AAD_2013 - Scholarship for academic activities aimed at supporting teachers from public universities of the Catalan university system and the Open University of Catalonia, 2013. Barcelona, Spain.

Master's Thesis, Meritorious Mention, Universidad Nacional de Colombia, 2009. Bogotá, Colombia.

NETWORK OF MACRO-UNIVERSITIES OF LATIN AMERICA AND THE CARIBBEAN, Academic Research Exchange Grant, Universidad Nacional Autónoma de México, 20058. México Distrito Federal, Mexico.

Research grant, CONCIENCIAS-Universidad Nacional de Colombia, Young innovators and researchers, 2007-2009. Colombia-Bogotá.

RELEVANT SKILLS

- Verbal and written communication
- Flexible & Adaptable
- Excellent work ethic
- Self-motivated professional
- teamwork

ACADEMIC REFERENCES

Cristina Cervelló-Pastor
cristina@entel.upc.edu
Department director
Telematics Engineering Department
Universitat Politècnica de Catalunya, UPC
https://scholar.google.es/citations?user=wDyCyZwAAAAJ&hl=ca

Jesús Maria Quintero Quintero
jmquinteroqu@unal.edu.co
Department director
Electrical Engineering Department
Universidad Nacional de Colombia
https://scholar.google.com/citations?user=UjKvQ4MAAAAJ&hl=es

*ONLINE PROFILE
CvLAC (Colciencias Colombia, Spanish): https://scienti.minciencias.gov.co/cvlac/visualizador/generarCurriculoCv.do?cod_rh=0001011235
Google Scholar: https://scholar.google.es/citations?user=-PUXffIAAAAJ&hl=es
ORDIC: https://orcid.org/0000-0003-0878-309X