

# ANA CAROLINA RODRÍGUEZ CEDIEL

## PhD. Student - MSc - BEng

**in** <https://goo.gl/R8jniH> **g** [goo.gl/uFOR5](https://goo.gl/uFOR5) **R** [goo.gl/mzDIJ](https://goo.gl/mzDIJ)

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**📍** Sergio Arboleda University, Electronic Engineering Department

**i** March 06, 1989 (33 years old) Bogotá DC

## EDUCATION

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|-----------|---|
| 2020-Now  | <b>Doctorate in Electrical Engineering</b> , National University of Colombia                                  |
| 2018-2021 | <b>Perfecting English as a Second Language</b> , National Pedagogical University                              |
| 2016-2018 | <b>Master in Information and Communication Sciences</b> , Francisco José de Caldas District University        |
| 2010-2015 | <b>Bachelor in Electronic Engineer</b> , Francisco José de Caldas District University                         |
| 2008-2006 | <b>Technologist in Electronic Maintenance and Industrial Instrumentation</b> , National Learning Service SENA |

## WORK EXPERIENCE

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|--------------------------|---|
| April 2021               | <b>Sergio Arboleda University, ASSOCIATION AGREEMENT NO. 776 OF 2021 BETWEEN THE SINGLE FUND OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES AND THE SERGIO ARBOLEDA UNIVERSITY, Bogotá DC</b>   |
| December 2021            | <ul style="list-style-type: none"><li>➤ Position : Academic Advisor</li><li>➤ Activities : 1) Support the management of the educational process; 2) Support the verification of compliance and application of the study plan; 3) Manage the technological tools for trainers and tutors 4) Coordinate the academic management teams.</li></ul> <div>Coordination leadership management.</div>   |
| November 2016            | <b>Scientific Research and Development Center, FRANCISCO JOSÉ DE CALDAS DISTRICT UNIVERSITY, Bogotá DC</b>  |
| April 2019               | <ul style="list-style-type: none"><li>➤ Position : Co-Investigator</li><li>➤ Activities : 1) Coordinate the purchasing and technology acquisition processes; 2) Lead the selection and hiring processes of research assistants; 3) Lead the formulation and development of all the expected research results (2 undergraduate degree projects, 1 software registration, 1 published article, 1 patent registration); 4) Follow-up reports.</li></ul> <div>Research coordination management.</div>   |
| July 2019<br>Now         | <b>Sergio Arboleda University, SCHOOL OF EXACT SCIENCES AND ENGINEERING - ECEI, Bogotá</b> <ul style="list-style-type: none"><li>➤ Position : Full Time Professor</li><li>➤ Full-time teaching and research activities in the Electronic Engineering Department with subjects on : Control Systems, Circuit Analysis, Digital Processing of Biomedical Signals and research activities.</li></ul> <div>Undergraduate Professor Control Systems I Circuit Analysis Digital Processing of Biomedical Signals</div>  |
| June 2019<br>July 2019   | <b>Francisco José de Caldas District University, FACULTY OF ENGINEERING, Bogotá DC</b> <ul style="list-style-type: none"><li>➤ Position : Administrative Assistant - Provide specialized professional services in an autonomous and independent manner in the exercise of activities related to the investigative and administrative management of the Center for Scientific Research and Development (CIDC), developing support activities for the planning, design and coordination of investigation processes.</li></ul> <div>Research Planning Design and Coordination Innovation</div> |
| August 2018<br>June 2019 | <b>Sergio Arboleda University, SCHOOL OF EXACT SCIENCES AND ENGINEERING - ECEI, Bogotá</b> <ul style="list-style-type: none"><li>➤ Position : Chair teaching activities in the Electronic Engineering Department, teaching 8 hours per week with subjects on Control Systems and Systems Design with Microcontrollers.</li></ul> <div>Undergraduate teacher Control Systems Microcontrollers</div>  |
| January 2018<br>May 2019 | <b>Francisco José de Caldas District University, FACULTY OF ENGINEERING, Bogotá DC</b> <ul style="list-style-type: none"><li>➤ Position : Administrative Assistant - Support the management of budgetary processes for the items of Professors, Chair Hours and Postgraduate Expenses related to the hiring of professors with a special connection to the Faculty.</li></ul> <div>Curricular Project Improvement Plans High Quality Accreditation Strategy Planning</div>  |

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|-------------------------------|---|
| January 2017<br>December 2018 | <b>Francisco José de Caldas District University, FACULTY OF ENGINEERING, Bogotá DC</b><br>> Position : Administrative Assistant - Support the improvement plan processes, action plan, qualified records, accreditation of curricular projects and monitoring of work plans for all teachers of the Faculty of Engineering.<br>Review Control Teacher Hiring Process Management Improvement Plans   |
| August 2014<br>December 2016  | <b>Francisco José de Caldas District University, PHD IN ENGINEERING, Bogotá DC</b><br>> Position : Administrative Assistant - Support in the fulfillment of activities related to the assigned budget, such as, management of budget availability certificates, budget registration certificates, contracting OPS - SC - Purchase Orders and payments to suppliers; preparation of start and completion minutes of service provision orders and purchase orders, preparation of certificates and compliments to contractors.<br>Purchase orders Budget availability Hiring Payment to suppliers |
| April 2009<br>June 2010       | <b>Francisco José de Caldas District University, MOBILITY AGREEMENT, Bogotá DC</b><br>> Position : Engineering Assistant – First mobility agreement 047, Planning and assessment of the mobility elements of the District University.<br>Planning Element evaluation.   |
| February 2008<br>August 2008  | <b>SIEMENS S.A., INDUSTRY MOTESTS, Bogotá DC</b><br>> Position : Technical Assistant - Engineering tasks regarding the design of a toll automation system for an offer in Peru, the essential communication between the Siemens PLC's and the communication modules through the Java language generating a graphical interface.<br>PLC communication modules automated systems.   |

## RESEARCH EXPERIENCE

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| 03/2013-Now     | <b>Co-Investigator</b> , LASER Automation, Embedded Systems and Robotics Laboratory Research Group, Francisco José de Caldas District University.                |
| 01/2016-01/2018 | <b>Junior Researcher</b> , Non-invasive system for the detection of risk factors for sudden infant death syndrome, Francisco José de Caldas District University. |
| 11/2011-Now     | <b>Co-Investigator</b> , Engineering and Nanotechnology for Life Research Group INVID, Francisco José de Caldas District University.                             |

## SHORT COURSES

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|------|---|
| 2016 | <b>3D printing with Makerbot</b> , MULTIPLAST DE COLOMBIA.  |
| 2015 | <b>Seminar on Machine Learning</b> , Doctorate in Engineering from the Francisco José de Caldas District University |
| 2008 | <b>S7-200 Basic PLC</b> , SIEMENS S.A.  |
| 2008 | <b>S7-200 Intermediate PLC</b> , SIEMENS S.A.   |
| 2007 | <b>Entrepreneurship Program</b> , National Apprenticeship Service - SENA  |

## SKILLS

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| <b>Programming</b>          | Python, Matlab (Guide, Simulink), VBA, VB.Net, C, Autocad                            |
| <b>Systems and Embedded</b> | PLC, Assembly, Proteus (Circuits,PCB), Labview, Arduino, Raspberry pi, Cypress(PSOC) |
| <b>Operating systems</b>    | Mac OS X, Windows Server, Windows 10, Linux Debian, Linux Ubuntu                     |

## LANGUAGES

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| English (B2)     | ● ● ● ○ ○ |
| Spanish (Native) | ● ● ● ● ● |

## ACADEMIC AWARDS AND ACHIEVEMENTS

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| 2015 | <b>Meritorious undergraduate thesis</b> , Faculty of Engineering - Francisco José de Caldas District University. |
| 2018 | <b>Master's thesis 5.0/5.0</b> , Faculty of Engineering - Francisco José de Caldas District University.          |

## FUNDED PROJECTS

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**INNOVATION PROJECTS - FRANCISCO JOSÉ DE CALDAS DISTRICT UNIVERSITY (CO-INVESTIGATOR IN COORDINATION ACTIVITIES)**  
2017 - 2019

 <http://cidc.udistrital.edu.co/web/>

*Non-invasive system for the detection of risk factors for sudden infant death syndrome*, in collaboration with : Francisco José de Caldas District University and Bogotá Health Department. Specific activities : 1) Coordinate purchasing processes and technological acquisition; 2) Lead the selection and hiring processes of research assistants; 3) Lead the formulation and development of all expected research results; 4) Preparation of monitoring reports.

Thermal Imaging   Sudden Infant Death   Position of Minors   Monitoring

## THESES SUPERVISED

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- ⚙️ </> **Undergraduate Thesis in Electronic Engineering**, Alarm System, Transmission and Temperature Monitoring with Thermal Images using Raspberry Pi, Student : Albeiro Jiménez López, Francisco José de Caldas University, 2018.
- </> **Undergraduate Thesis in Electronic Engineering**, Algorithm for the detection of body positions during sleep from thermal images in children under one year of age, Student : María Mercedes Quiñones Cortés, Francisco José de Caldas University, 2018.  
Hardware ⚙️; Software </>

## CONFERENCES AND PUBLICATIONS

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- 2018 **The Association for Research in Vision and Ophthalmology Annual Meeting**, Temperature of the ocular surface through infrared thermography imaging in the healthy adult population, Vancouver – Canada
- 2018 **Pan-American Research Day PARD**, Temperature of the ocular surface through infrared thermography imaging, Vancouver – Canada
- 2018 **Journal Electronic Vision**, Breathing and temperature detection using thermal images in infants, ISSN 1909-9746.
- 2018 **Journal International Journal of Applied Engineering Research (IJAER)**, Non-Invasive Model for Detection of Extrinsic Risk Factor of Sudden Infant Death Syndrome, ISSN 0973-4562.
- 2018 **II International Congress of Basic Sciences and Engineering - CICI**, Detection of Body Position in Sleep from Temperature Measurement - Unillanos, Villavicencio
- 2013 **XI Regional Meeting of Research Seedbeds**, Francisco José de Caldas District University – Bogotá-Cundinamarca Node.
- 2013 **XI National Meeting of Research Seedbeds**, Francisco José de Caldas District University - Montería - Córdoba.

## ® SOFTWARE AND PATENTS

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- 12/31/2018 🏆 **Colombian Patent Registration :NC2018/0014415 (Filed)**, *Procedure for non-invasive monitoring of temperature, respiration and position in babies using thermal images.*
- 03/08/2018 © **Colombian Software Registration :13-68-246**, *Application for the analysis of sudden infant death syndrome.*
- 08/10/2016 © **Colombian Software Registry :13-56-255**, *Face position detection for Sudden Infant Death Syndrome prevention.*

## ⚙️ PROFESSIONAL AFFILIATIONS

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- 👤 **Institute of Electrical and Electronics Engineers - IEEE**.- Teacher Counselor Student Branch Sergio Arboleda University
- 👤 **IEEE Engineering in Medicine & Biology Society - EMB**.- Teacher Counselor Student Chapter Sergio Arboleda University
- 👤 **IEEE Robotics & Automation Society - RAS**