



## Diego Fernando Salazar D'antonio

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Electronic engineer entrepreneur, self-taught, responsible, creative and goal oriented. He received his BSc. degree in electronic engineering. He is candidate to earn his MSc. in control engineering at the university of Ibague, Colombia, where he is currently a professor in the faculty of engineering. This MSc. program in control engineering has been created as a result of a fruitful academic cooperation between the University of Ibagué, the Catholic University of Leuven “KULeuven” and the University of Ghent UGent “UGent” in Belgium.

He worked for a company called “Ideas Disruptivas” in Mexico, where as a project manager he helped develop the first Mexican 3D printer, with a clear educational purpose. The most outstanding project I have worked for, is called “pretty hand”, where a mechanical-electronic hand was designed for people needing hand prosthesis; it was a low-cost social project. He is currently chair of IEEE student branch chapter and chair industrial application society at the university of Ibague. His current research topics include power electronics, robustness and advanced control, renewable energy systems, where he has written several papers. He is fond of robotic systems.

### Personal information

Place and date born:	Bogotá, Colombia, August 27 de 1989
Address:	Calle 79 # 11b - 21 Paseo San Francisco Ibagué Tolima
Cellphone:	+57 310 778 8486
Passport:	AP427013.
Civil status:	Married

### Academic information

Graduate	University of Ibagué <b>Master in Control Engineering</b> Scholarship from the University of Ibague Thesis title: <b><i>Autonomous operation of a hybrid microgrid using centralized distributed control</i></b>  Dissertation: July 2020
Undergraduate	University of Ibagué <b>Electronic engineer</b> Research report title: <b><i>Design, assembly and control using PID, PID modified, and state-feedback in a quadcopter.</i></b> Degree in 2017

**Experience**

- Position:** Visiting Scholar February 2019 –  
**Company:** Lehigh University September 2019  
**Place location:** Bethlehem, PA, US.  
**Functions:** Study and analyze physical interaction between aerial robots.  
**Supervisor:** Ph.D. David Saldaña  
saldana@lehigh.edu
- Position:** Associate Professor February 2019 –  
**Company:** Universidad de Ibagué September 2019  
**Place location:** Ibagué, Tolima.  
**Functions:** Teaching in digital electronics courses, simulation, development and implementation using microcontrollers PIC  
**Supervisor:** MSc. Luisa Gallo.  
luisa.gallo@unibague.edu.co
- Position:** Research assistant master student August 2017 –  
**Company:** Universidad de Ibagué September 2019  
**Place location:** Ibagué, Tolima.  
**Functions:** Research support.  
**Supervisor:** Ph.D. Oswaldo López.  
oswaldo.lopez@unibague.edu.co
- Position:** Chair student branch chapter, and Chair Industrial Application Society student branch chapter. September 2018 –  
**Company:** IEEE Unibague December 2019  
**Place location:** Ibagué, Tolima.  
**Functions:** Strategic management
- Position:** Assistant professor August 2018 –  
**Company:** Universidad de Ibagué December 2018  
**Place location:** Ibagué, Tolima.  
**Functions:** Assistant professor teaching: linear algebra, control and laboratory, power electronics, lines and antennas.
- Position:** Assistant professor February 2018 –  
**Company:** Universidad de Ibagué May 2018  
**Place location:** Ibagué, Tolima.

**Functions:** Assistant professor teaching: precalculus, mechanical physics and differential calculus.

**Supervisor:** Cristian Saúl, Fernando Beltrán.

**Position:** Instructor

14 de August, 2017 –

**Company:** Instituto Tolimense de Formación Técnica Profesional

06 de December 2017

**Place location:** Espinal, Tolima

**Functions:** Special mathematics, differential calculus, mechanical physics, research projects, electromechanical physics.

**Supervisor:** Libardo Cartagena

**Position:** Research assistant student

May del 2016 –

**Company:** Universidad de Ibagué

February del 2017

**Place location:** Ibagué, Tolima

**Functions:** Assemble of a autonomous navigation system for a commercial quadcopters and development an autonomous control system for a quadcopters navigation.

**Supervisor:** oscar.barrero@unibague.edu.co

**Position:** Engineering and innovation department manager

July 20 del 2012 -

**Company:** Ideas Distruptivas S.A. de C.V.

January 10 del 2015

**Place location:** Ciudad de México, México

**Functions:** Development of innovation projects based on technology and 3D printing, support in the creation of the first Mexican 3D printer, Pretty Hand project leader, a low cost prosthesis.

**Supervisor:** Lino Romero lino@ideasdisruptivas.com

**Position:** Virtual Education and Diffusion Coordinator in National Team.

1 de August 2012 –

**Company:** AIESEC Colombia ONG

12 de June 2013

**Place location:** Colombia

**Functions:** Create virtual coaching strategies for the 19 local committees distributed in Colombia, create contents of empowerment, leadership, knowledge management and basic functions of the organization.

**Supervisor:** Felipe Mora felipe.mora@aiesec.net

**Position:** Marketing and Communication

17 de July, 2013 –

**Company:** AIESEC Guatemala ONG

December 2013

**Place location:** Guatemala

**Functions:** Create brand positioning strategies in AIESEC Guatemala, create contents NEWs letter, leadership, knowledge management.

**Position:** Vice President of Information Management & Internal Communication

January 2012 –  
December 2012

**Company:** AIESEC Colombia ONG

**Place location:** Ibagué, Tolima – Colombia

**Functions:** In charge of a team of 18 people for strategies management to improve the use of ICT at the local level, processes and performance of the local entity;

### Conferences

3D Markes, Universidad Tecnológica de Tabasco, Villahermosa, Tabasco, México 3 al 7 de November, 2014

Tour IMPRESIONANT3, Instituto Tecnológico Superior de Macuspana, Macuspana, Tabasco, México. 3 de December, 2013

Imprimiendo Innovación en México: tour IMPRESIONANT3, Villahermosa, Tabasco, México. 16 de November, 2013

Robots vs Humanos: de la ficción a la ciencia, Balancán, Tabasco, México. 7 al 11 de April 2014

### Research experience

Design, assembly and control by feedback of the status of an electric quadcopters, Research Assistant, degree modality. 1 de August, 2015

Certificate of excellence, autonomous home, RedColsi. November de 2012

Research hotbed robotics from the Engineering Research Group D+TEC. February 2010 – Present

### Publications

- O. Lopez-Santos, C. A. Jacanamejoy-Jamioy, D. F. Salazar-D'Antonio, J. R. Corredor-Ramírez, G. Garcia and L. Martinez-Salamero, "A Single-Phase Transformer-Based Cascaded Asymmetric Multilevel Inverter With Balanced Power Distribution," in *IEEE Access*, vol. 7, pp. 98182-98196, 2019. doi: <https://doi.org/10.1109/ACCESS.2019.2930230>
- Salazar-D'antonio D., Meneses-Casas N., Forero M.G., López-Santos O. (2019) Automatic Fault Detection in a Cascaded Transformer Multilevel Inverter Using Pattern Recognition Techniques. In: Morales A., Fierrez J., Sánchez J., Ribeiro B. (eds) Pattern Recognition and Image Analysis. IbPRIA 2019. Lecture Notes in Computer Science, vol 11867. Springer, Cham doi: [https://doi.org/10.1007/978-3-030-31332-6\\_33](https://doi.org/10.1007/978-3-030-31332-6_33)

- Lopez-Santos O., Corredor J.R., Salazar D.F. (2018) Computational Tool for Simulation and Automatic Testing of a Single-Phase Cascaded Multilevel Inverter. In: Figueroa-García J., López-Santana E., Rodríguez-Molano J. (eds) Applied Computer Sciences in Engineering. WEA 2018. Communications in Computer and Information Science, vol 915. Springer, Cham

### Courses/conferences assistant

- Optimization Seminar 23 de January 2019
- Predictive control and its application to the control of thermal energy systems. 1 de March de 2017
- XVI encuentro departamental de semilleros de investigación 19 de May, 2018
- Finalist in MathWorks Minidrone Competition 25 de October, 2018
- Diploma in basic ICT competencies 2 de December, 2015
- VII Robot al Parque 9 de November, 2012
- Special Course In “Direccionamiento Estratégico En La Organización” 29 De November, 2015
- Special Course In “Fomentar Las Relaciones Interpersonales En Equipos De Trabajo De Alto Rendimientos” 19 De Agosto, 2013
- Special Course In “Herramientas Ofimáticas I” 7 De January 2014
- Special Course In “Trabajo En Equipo Y Comunicación Asertiva” 12 De December, 2013
- Special Course In “Relaciones Humanas” 12 De December, 2013
- Special Course In “Liderazgo, Motivación Y Trabajo En Equipo” 12 De July, 2013
- Special Course In “Estrategias Para El Mejoramiento De La Productividad Empresarial” 6 De July, 2013
- Special Course In “Motivación Y Liderazgo” 14 De February, 2013
- Special Course In “Básico En Emprendimiento” 14 De February, 2013
- Special Course In “Básico Administrativo - Operativo Trabajo Seguro En Alturas” 8 De November, 2012
- Special Course In “Gestión Comercial De Productos Intangibles” 13 De March, 2012
- Special Course In “Planeación Estratégica” 13 De March, 2012
- Special Course In “Formación Pedagógica Para Organizaciones No Gubernamentales” 30 De November, 2011
- Special Course In “Marketing Estratégico Y Multicultural” 10 De August 2011
- Special Course In “Formación Empresarial Multicultural” 22 De July, 2011
- Special Course In “Competitividad Empresarial Y/O Organizacional” 22 De July, 2011

**Affiliations / Membership of groups**

IEEE Colombia

2 de February, 2012 – a la Present

**Programming languages**

- C ++
- ROS
- Python
- Asembler
- PICs
- DsPICs
- PLL
- LABVIEW
- SIMULINK
- MATLAB
- Neural Networks
- Digital Processing of Images
- Android Mobile Applications
- Java principles
- HTML
- PHP
- Visual Basic
- Acquisition of sensors (ultrasonic, temperature, distance, color, line detection)
- Management modules (communication Bluetooth, WIFI, LCD Screens and Color, Servo Motors, Power Driver)
- Projects (ECG Digital, arm prosthesis, SUMO, line follower, Collector Robot remote controlled objects,
- Virtual reality in MATLAB

**Language**

Language	Redding	Speaking	Writing
Spanish	Native	Native	Native
English	80%	50%	80%
Portuguese	50%	50%	40%

**References**

PhD. Oswaldo López Santos  
 Research director group D+TEC  
 Associate professor to electronic program  
 Universidad de Ibagué  
[oswaldo.lopez@unibague.edu.co](mailto:oswaldo.lopez@unibague.edu.co)

PhD. Mario Jiménez Hernandez  
 Associate professor to bioengineering program  
 Universidad del Bosque  
[mjimenezh@unbosque.edu.co](mailto:mjimenezh@unbosque.edu.co)