

# ANDRES LADINO

## Research Engineer & Data Scientist

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## EXPERIENCE

### Postdoctoral researcher

#### UGE - University Gustave Eiffel

📅 Jan 2020 - Ongoing    📍 Lyon, France

- Please refer to activities in my previous position institution. Recently created after dissolution of IFSTTAR

### Postdoctoral researcher

#### IFSTTAR - French institute of science and technology for transport

📅 Jan 2018 - Dec 2020    📍 Lyon, France

- Developed methods for control of connected vehicles and platoon strategies in complex traffic networks at LICIT (<https://bit.ly/licitfr>)
- Measure impact of platoons in traffic flow (ENSEMBLE WP4.5 / EU ).
- Developed software package for interaction of CAVs and traffic simulators. (<https://symupy.readthedocs.io/en/stable/>)
- Attended and Participated at the Autonomous Vehicles workshop at IPAM (<http://bit.ly/IPAM-AV>)

### Research assistant

#### CNRS / INRIA - National center for scientific research/

#### French Institute for Research in Computer Science and Automation

📅 August 2014 - October 2017    📍 Grenoble, France

- SPEEDD project researcher (within Traffic Use Case) at the NeCS (<http://bit.ly/necsfr>).
- Participated in the long program on Traffic Flow (<http://bit.ly/Speech-IPAM>)
- Developed short-term forecasting algorithms for traffic networks. Real-time operation at (<http://gtl.inrialpes.fr/status>)

### Instructor Professor

#### Pontifical Xavierian University - Universidad Javeriana

📅 January 2011 - August 2014    📍 Bogota, Colombia

- Courses taught: Dynamic systems, Control theory, Control laboratory
- Leader of the communication committee. Project ADDE SALEM

### Process Analyst

#### IBM - International Business Machines

📅 Aug 2007 - Apr 2009    📍 Bogota, Colombia

- Process Analyst: Business Process in IT Services / Strategic Outsourcing
- Coordinated and wrote Manuals jointly with IT management team:
  - Avianca (Airline)
  - Belcorp (Beauty)
  - Colseguros (Insurance)

## MOST PROUD OF



### International experience

Having the opportunity to work in an international environment

## SKILLS

Traffic Flow Theory

Intelligent Transportation Systems

Automatic Control

Statistical Analysis

Statistical Learning

Machine Learning

C++

Python

R

git

Matlab

SQL

## LANGUAGES

Spanish



English



French



## EDUCATION

### Ph.D. in Automatic Control

#### Université Grenoble Alpes

📅 Sept 2014 - Mar 2018    📍 Grenoble, FR

Thesis title: Estimation and prediction in large scale traffic networks

### M.Eng. in Electronic Engineering

#### Pontifical Xavierian University

📅 Jul 2009 - Dec 2011    📍 Bogota, CO -GPA: 4.5/5.0

### B.Sc. in Electronic Engineering

#### Pontifical Xavierian University

📅 Jan 2003 - Sep 2008    📍 Bogota, CO -GPA: 4.0/5.0

## HOBBIES

Piano, outdoor activities (Hiking, Cycling)

## PROJECTS

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### ENSEMBLE

#### European Union/IFSTTAR

📅 3 years

📍 Lyon, France

**Role:** Coordinator Work Package 4.5. ENSEMBLE is a European Union funded research project to pave the way for the adoption of multi-brand truck platooning in Europe to improve traffic safety, throughput and fuel economy. (<http://bit.ly/EnsemblePlatoonEU>)

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### SPEEDD

#### European Union/CNRS

📅 3 years

📍 Grenoble, France

**Role:** Research assistant. SPEEDD is a FP7 EU research project for Development of real-time event recognition and forecasting technology operating on Big Data. (<http://bit.ly/SpeeddEU>)

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### ADDE SALEM

#### European Union/Politecnico di Milano - Pontifical Xavierian University

📅 3 years

📍 Bogota, Colombia

**Role:** Communications chair. Adde Salem analysed to what extent engineering joint degrees' curricula reflected job market needs in the most developed countries of Latin America. (<http://bit.ly/AddeSalem>)

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## CERTIFICATIONS

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### Data Scientist with Python

#### Data Camp

📅 April 2019

📍 <http://www.datacamp.com>

A series of online lectures & projects on how to combine statistical and machine learning techniques with Python programming to analyze and interpret complex data.. ([http://bit.ly/DC\\_DSwithPython](http://bit.ly/DC_DSwithPython))

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## AWARDS

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### 2nd Prize, Student Thesis Contest

#### IEEE, Industry Applications Society

📅 October 2012

📍 Las Vegas, USA

*On predictive control of hybrid systems subject to variable time delays* This prize recognizes the best emerging academic work on the scope of the Industry Applications Society, in particular advancement of the theory and practice of electrical and electronic engineering.

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### Honourable Mention

#### Master Thesis

📅 April 2012

📍 Bogota, Colombia

*On predictive control of hybrid systems subject to variable time delays* This thesis analyzes control methods for discrete linear systems with variable time delays using predictive tools while studying their stability properties.

# PUBLICATIONS

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## Journal Articles

- Duret, Aurelien, Meng Wang, and Andres Ladino (2020). "A hierarchical approach for splitting truck platoons near network discontinuities". In: *Transportation Research Part B: Methodological* 132. An optional note, pp. 285–302.
- Ladino, Andres, A. Y. Kibangou, et al. (2017). "A real time forecasting tool for dynamic travel time from clustered time series". In: *Transportation Research Part C: Emerging Technologies* 80, pp. 216–238. ISSN: 0968090X. DOI: 10.1016/j.trc.2017.05.002. URL: <http://dx.doi.org/10.1016/j.trc.2017.05.002>.

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## Conference Proceedings

- Ladino, Andres, Aurélien Duret, and Nour-Eddin El Faouzi (2020). "Calibration and impact of control strategies for splitting truck platoons at on-ramps:" in: *TRB 2020 Annual Meeting*. Ed. by Transportation Research Board. Washington, DC, USA.
- Ladino, Andres and Meng Wang (2020). "A dynamic game formulation for cooperative lane change strategies at highway merges". In: *IFAC World Congress 2020*. Ed. by International Federation of Automatic Control. Berlin, Germany.
- Duret, Aurelien, Meng Wang, and Andres Ladino (2019). "A Hierarchical Approach For Splitting Truck Platoons Near Network Discontinuities". In: *23rd International Symposium on Transportation and Traffic Theory, ISTTT*, pp. 627–646.
- Duret, A, A Ladino, and M Wang (2018). "Hierarchical multi-injection strategy and platoon manoeuvres at network junctions". In: *2nd Symposium on Management of Future Motorway and Urban Traffic Systems*. Ed. by EU. Vol. 2. Ispra, pp. 11–13.
- Ladino, Andres, Carlos Canudas-de-Wit, et al. (2018). "Density and flow reconstruction in urban traffic networks using heterogeneous data sources". In: *2018 European Control Conference (ECC)*. ed. by IEEE. Limasol, Chyprus: IEEE, pp. 1679–1684. ISBN: 978-3-9524-2698-2. DOI: 10.23919/ECC.2018.8550267.
- Ladino, Andres, Alain Kibangou, et al. (2017). "Travel time forecasting from clustered time series via optimal fusion strategy". In: *2016 European Control Conference, ECC 2016*, pp. 2234–2239. ISBN: 9781509025916. DOI: 10.1109/ECC.2016.7810623. URL: <https://hal.archives-ouvertes.fr/hal-01296525/>.
- Ladino, Andres and Diego Patino (2013). "On the stability of predictive controllers for linear systems with variable time delays". In: *2013 American Control Conference (Acc)*, pp. 3254–3259. ISBN: 0743-1619; 978-1-4799-0178-4. DOI: 10.1109/ACC.2013.6580333.