Andrés Ladino, PhD

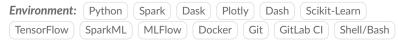
Data Scientist @ Talan | Predictive Analytics, Control Systems

EXPERIENCE

· Data Scientist | RATP Group (Talan) ·

Context: Development of predictive algorithms for the maintenance business unit. Contributor to product development of SERVAL, the official maintenance tool for railway systems in the Paris metro system. **Results:**

- Full development and maintenance of the life cycle of machine learning systems. From Data Analyisis, Training, Deployment, Versioning, Maintenance.
- Design of 3 predictive algorithms in production application (impact on 3 maintenance workshops) for alerting problems in specific train components.
- Developed a new software package containing tools for data scientists, cutting of overhead 60% of time spent in data retrieval, analysis tasks and labelling tasks.



· Consultant | Talan ·

Context: Specialist on Big Data technologies, conception and development of new solutions with Artificial Intelligence. Fostering and encouraging new talents on the data science pathway. **Results:**

- Proximity manager: In charge of 4 consultants, annual performance reviews, objective-based assessment,
- Conception and implementation of Al solutions: Bouygues Immobilieres + RATP
- Creation and deployment of Machine Learning Algorithms behind SER-VAL, web application tool used by RATP for maintenance of the train fleet (metro/RER of Paris)

 Environment:
 Databricks
 Google Cloud Platform
 , Google Big Query

 Project Management
 Data Analysis
 Team leadership
 Data science

· Research Engineer | IFSTTAR / UGE ·

Context: Conducting traffic-level assessment and standardization protocol design for deploying platooning solutions in collaboration with 6 OEMs within the EU project initiative ENSEMBLE. **Results:**

- Conducted traffic impact assessments for traffic solutions.
- Developed software, data collection protocols, and experimental designs with participation from the 6 largest European OEMs.
- Implemented Implemented platooning software architectures and interfaces with microscopic traffic simulators using Python and C++Performed traffic impact assessment of traffic solutions.(Vissim and Symuvia)

 Environment:
 Python
 Pandas
 Matplotlib
 C++
 Boost
 Docker

 Git
 GitLab CI
 Shell/Bash

EDUCATION

Ph.D. Automatic Control Université Grenoble Alpes

i 09/2014 - 09/2018 Grenoble, FR

Dissertation: Traffic state estimation and prediction in freeways and urban networks.

M.Eng. Electronic Engineering Pontifical Xavierian University

= 07/2009 - 12/2011 **●** Bogota, CO

Thesis: On predictive control for hybrid systems subject to variable time delays. **GPA:** 4.5 (out of 5)

B.Eng. Electronic Engineering Pontifical Xavierian University

■ 01/2003 - 09/2008 Bogota, CO

GPA: 4.0 (out of 5)

SKILLS

- Software Architecture: Concurrent systems, ODE simulation
- *Modeling* : Data analysis, Multiphysics problems, Numerical analysis, Dynamic stability
- Statistical Learning : Un/Supervised learning, deep learning, reinforcement learning
- Project Management : Agile Methodologies, MLOps, Product development

Programming Languages:

- Python: (Proficient) Libraries: Pandas, Numpy, TensorFlow, Dask, PySpark, Scikit-learn, MLFlow
- C++: (Comfortable) Libraries: Boost, SymuVia
- Matlab/Simulink | Julia | Go | (Essentials)

Tools:

• Linux Shell Docker K8s Git{Lab/Hub}

CMake

Data Tools, Cloud platforms:

• SQL Google Cloud Big Query(ML)

Databricks

QUALIFICATIONS

- Data Scientist with Python
- Machine learning in Python
- Deep Learning AI TensorFlow Development
- Digital Transformation Using AI/ML GCP

· Research assistant | CNRS / INRIA ·

1 09/2014 - 09/2017 (3 Years)

Grenoble, France

Context: Predictive algorithms aiming to forecast traffic conditions within the SPEEDD project. This research project involved the design of such predictive algorithms along with their implementation at large scale.

Results:

- Conceived innovative real-time forecasting algorithms for traffic networks, combining heterogeneous sources of data.
- Designed and implemented reconstruction algorithms for traffic data.
- Collaborated with DIR-CE (Route regional manager) to deploy a traffic monitoring system a.k.a GTL for the SPEEDD project.

Environment: | Matlab | Machine Learning | Estimation Theory | Python Sensor Fusion | Git | Shell/Bash | LaTeX Forecasting

Graduate researcher | IPAM -

Context: Visitor researcher in the context of the Long Program Visitor Researcher at UCLA.

Results:

- Attended and presented innovative research results (+50 attendees).
- Designed statistical learning algorithms to estimate and predict travel time in traffic networks.

· Instructor Professor | Pontifical Xaverian University ·

1 01/2011 - 08/2014 (3 Years)

Bogota, Colombia

Context: Full permanent professor in the engineering faculty ifor the Electrical Engineering program.

Results:

- Developed the communication program for the EU ADDE SALEM project, performed interviews to 10 key stakeholders of joint degrees in between Latin America and Europe.
- Instructed courses for (+150 students) in 3rd year: Automatic Control, Automatic Control Laboratory and Dynamical Systems.

Environment: Office Suite | Project Management | Teaching

Process Analyst | IBM -

Context: Full time analyst for the Strategic Outsourcing business unit.

• Responsible for documentation of Operational Service Manuals (OSM) jointly with IT management team.

Environment: Office Suite Project Management Data Analysis Team leadership

PROJECTS

ENSEMBLE - European Union/IFSTTAR

2018-2021

Lyon, France

SPEEDD - European Union/CNRS

2014-2017

Grenoble, France

ADDE SALEM - EU | Pontifical Xaverian University

2018-2021

Bogota, Colombia

PUBLICATIONS

AWARDS

Honorable Mention, Master Thesis - PUJ

April, 2012

Bogota, Colombia

2nd Prize, M.Sc Student Thesis Contest-**IEEE**

October 2012

Las Vegas, USA

PhD Scholarship - CNRS

October 2014

Grenoble, France

Research visitor scholarship - IPAM/UCLA

October 2015

Los Angeles, USA

LANGUAGES

Spanish **English** French

