Andrés Ladino, PhD

Data Scientist @ Talan | Predictive Analytics, Control Systems

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EXPERIENCE

· Data Scientist | RATP Group (Talan) ·

Since 01/ 2022 Paris, France

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.

Environment: Python | Spark | Dask | Plotly | Dash | Scikit-Learn | TensorFlow | SparkML | MLFlow | Docker | Git | GitLab CI | Shell/Bash

· Consultant | Talan ·

Since 01/ 2022 Paris, France

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 AI solutions: Bouygues Immobilieres + RATP
- Creation and deployment of Machine Learning Algorithms behind SERVAL, 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 ·

01/ 2018 – 11/2021 Lyon, France

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

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 ·

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 | Forecasting | Sensor Fusion | Git | Shell/Bash | LaTeX

· Graduate researcher | IPAM ·

09/2015 – 10/2015 (2 months) Los Angeles, USA

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 ·

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 ·

08/2007 – 04/2009 ($1_{1/2}$ Years) Bogota, Colombia

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

Full list at https://www.andresladino.com/publication/

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