

MARTÍN ARAMAYO

Autonomous City of Buenos Aires, Buenos Aires, Argentina



My blogs: in English blog/Martin, in Spanish blog/Martin/es, (each of the links offers different content)

Completed education

Instituto Balseiro, full scholarship, National Atomic Energy Commission

Jan. 2020 – Dec. 2021

Master of Science in Statistical Physics: Machine learning applied to demography

Bariloche, Río Negro, Argentina

Instituto Balseiro, full scholarship, National Atomic Energy Commission

Jul. 2018 – Dec. 2020

Bachelor degree in Physics

Bariloche, Río Negro, Argentina

Universidad Nacional de Salta

Jan. 2016 – Jul. 2018

Bachelor degree in Physics

Ciudad de Salta, Salta, Argentina

Experience

Intellignos, Havas

Mar. 2022 – Nov. 2022 (9 months)

Data Scientist

Autonomous City of Buenos Aires, Buenos Aires, Argentina

- Production of more efficient metrics for model. Converting a costly $O(ne^n)$ metric calculation to a $O(n)$ metric.
- ETL, analysis, support, documentation and modelling for global clients. Merging of two clients ETLs into one.
- Management, ownership, automatization, config file design and production of the ETL for two products of a US client.
- Tech: Bash, DataBricks, StreamSets, BigQuery, Dataproc, PySpark, Azure, Python, in-house models & BI tools.

UNICEF, ONG

Jun. 2020 – Feb. 2022 (1 year 9 months)

Data Scientist trainee

Bariloche, Río Negro, Argentina

- Analysis of GIS data and microcensus data for a demographical estimation project.
- Binary classification of occupation state with machine learning.
- Tech: Scikit-learn, Numpy, Pandas, SPSS datasets, Scipy, SQL.

CNEA, Centro Atómico de Bariloche

Jun. 2018 – Jan. 2022 (3 year 6 month)

ML trainee — Scholarship Holder — B. Sc. & M. Sc. in statistical Physics

Bariloche, Río Negro, Argentina

- Ground-up implementation of agent-based demographic simulation with 300 000+ agents. Data pipeline includes: automatic config & log files, post-execution analysis, testing & benchmarking.
- Mathematical modelling courses: dynamical systems, stochastic models, game theory, technology & healthcare models.
- AI: Machine Learning, Deep Learning, LSTM, NLP, image processing, encoding, feature engineering & clustering.
- Data handling: Preprocessing field data, simulation data production & analysis, data mining from multiple runs.
- Software development: Python for data analysis. Computational experience in physics, biology & healthcare projects. CUDA oriented to simulations. Basic data structures in C; trees, stacks, list.
- Frequent presentations of project insights with stakeholders.
- Simulating the control system for the orientation and course-correction of a modelled satellite through a Kalman filter.
- Courses on Medical imaging: Use of OpenCV, ImageJ, Matlab and Python.
- Data-driven projects requiring statistical background.
- Instances of public speaking involving the communication of experimental results and technical knowledge acquired.

Projects

Demographic agent based simulation | *Python, Bash, Pandas, Matplotlib*

April 2021

- Developing an MVP OOP prototype in Python, including growth and reproduction dynamics.
- Final implementation in the Pandas library which reduced in half execution times.
- Reproduction of some popular models in population dynamics.
- Public presentations of results and visualizations.

Demographic estimation | *Sklearn, Keras, Matplotlib, Python*

August 2020

- Data exploration and data analysis for the feature engineering stage.
- Evaluation and implementation of binary classifiers to distinct between inhabited and uninhabited households from satellital data.
- Estimation of subpopulations from an estimated distribution of habitants for each household.
- Small dataset estimation, knowing only satellital information and microcensus data.

Habilidades técnicas

Programming Languages : Python, C, BASH, SQL

Development tools : Regex, Jupyter, IPython, git, postgresSQL, BigQuery, Dataproc, Streamsets, PySpark, REST APIS

Technologies/Frameworks : Linux, Docker, Pandas, Sci-kit learn, Keras, Numpy, Matplotlib

Documentation : Latex, Markdown, pandoc, Notion, Joplin, Mermaid, Hugo, Inkscape, VS code

Languages : English (ESOL B2), Spanish (Native)