Rodrigo **Neves**

Machine Learning Engineer

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"Only a few know how much one must know to know how little one knows"

Summary

Currently working as a Software/Machine Learning enginer at a start-up with a focus on building predictive solutions for the energy and heavy industry sector. Having been working for 3+ years in a start-up, allowed me to learn, develop and broaden my knowledge and skills in several technical and non-technical areas at a pace that I was not expecting. Having been initially focused on expanding my machine learning skills all of the sudden I was already developing essential software to be used by my colleagues, creating fundamental internal dashboards, making presentations to our clients, deploying and managing business intelligence and machine learning workflows on a production cluster or jumping into Jungle's product source code to improve our backend or even fix a bug into the frontend with minimal experience on javascript. All of this allowed me to understand that I love to feel challenged and uncomfortable to keep myself motivated. I present myself as a person that is eager to learn, loves a good challenge, likes to ask questions, do not like inefficiencies, aims for excellence and is always ready to help.

Work Experience

Jungle AI — *Lisbon, Portugal*

Software/Machine Learning Engineer — *May 2018 - Present*

- Researched and implemented Jungle's core approach to predictive modelling with a emphasis on recurrent models and time series data implementing from scratch most of the modules using Pytorch.
- Active member of 5+ projects within the energy and heavy industry sector with the main purpose of showing Jungle's predictive solutions. This work would evolve to gather, process and analyze data to apply Jungle's predictive maintenance pipeline and presenting the result to the clients.
- Designed, developed and build internal and production-ready software and deployments. Tasks like ORM definition for production databases, software to process essential high-volume data analysis or the development of a backend infrastructure to manage production deployments using FastAPI, among others.
- Designed and implemented a database architecture (Postgres and TimescaleDB) refactor to allow for a scalable, high-performing and cost-effective solution.
- Built an automated data collection and cleaning workflow (AWS S3 and Prefect) to process daily 2k+ sensors with a millisecond frequency.
- Built a CRUD RESTful API in Node.js for TimescaleDB and PostgresSQL database to be used by Jungle product.
- Implemented, deployed and maintained several high-performing, scalable and distributed workflows using Argo and Kubernetes to different business needs.
- Designed, built and managed an internal dashboards and data warehouse solution using InfluxDB and Grafana to allow for high-volume data analysis.

Jungle AI — *Lisbon, Portugal*

Master Thesis Internship — *August 2018 - May 2018*

- Had the opportunity to do my master thesis work in a professional environment. The main research goal was to study, implement and test the performance of different deep learning models and architectures applied to time-series problems, specifically on the area of predictive maintenance and forecasting. This allowed me to be an active member of Jungle's daily projects to establish their technology.

Technical Skills

Programming Language	Python, Javascript
Machine Learning Stack	Pytorch, Tensorflow, Scikit-learn, XGBoost, LightGBM
Data Analysis Stack	Pandas, Numpy, Dask, Scipy, Ray, Numba, IPython, Holoviews, Bokeh, Plotly, Matplotlib
Workflow Orchestration	Docker, Kubernetes, Argo, Prefect
Fullstack Technologies	PostgreSQL, TimescaleDB, InfluxDB, Node.js, Flask, FastAPI, ReactJS, Gatsby, SQLAlchemy
Software development	Git, CI/CD, Unit-testing, Agile

Education

Insituto Superior Tecnico - Universy of Lisbon — *Lisbon, Portugal*

Msc. in Electrical and Computer Engineering — *Sept. 2012 - June. 2018*

- Masther thesis - "An overview of deep learning strategies for time-series prediction". Work done in collaboration with Jungle AI.