



ALeRCE
Automatic Learning for the
Rapid Classification of Events

CMM
Center for
Mathematical
Modeling

JOB OFFER

Full Stack Software Engineer

We are looking for a software engineer to join the [ALeRCE](#) (Automatic Learning for the Rapid Classification of Events) project. ALeRCE is one of the leading projects in the world doing massive processing of astronomical alerts coming from a new generation of telescopes, such as the Zwicky Transient Facility (ZTF), that has been operating for two years from the U.S., or the Vera C. Rubin Observatory and its Legacy Survey of Space and Time (LSST), that will start operations in Chile since 2023 and that will have a 3 billion pixel camera. ALeRCE has had a large impact in the international astronomical community, with more than 4000 users in 62 countries using our tools, thanks to the automatic classification of more than 100 million astronomical alerts.

The ALeRCE project is organized following Agile methodologies and is composed by an interdisciplinary, interinstitutional, and international team. It has three main areas: one in charge of processing and providing access to massive data, another that develops machine learning tools for automatic classification, and an astronomy area that extracts the best science from the data. Each area operates in synchronized sprints, producing high impact products in a rapid fashion. Our project operates with a hybrid infrastructure: from the cloud ([AWS](#)), with on-premise infrastructure ([Quimal](#) project based on [REUNA](#)), and using national high performance computing infrastructure ([NLHPC](#)).

We are looking for a full or part-time engineer to help us with at least two of the following tasks, in order of importance:

1. Support the development, testing and moving to production of our data processing pipeline. This pipeline has more than one year of development and it needs to be optimized for a faster execution. Some of the tools we use are Python, C++, PySpark, Kafka (client), Docker.
2. Support the management of our on-premise and cloud infrastructure. Some of the tools we use are AWS, Kafka, PostgreSQL, MongoDB, Cassandra, Grafana, Prometheus, Docker, Kubernetes, Elasticsearch/Kibana, Terraform, Ansible, Packer.
3. Support the testing and moving to production of machine learning algorithms for the automatic classification of astronomical objects. Some of the tools we use are Python, Spark, scikit-learn, Tensorflow, Pytorch, Docker.

BACKGROUND

Work schedule: Half or full time

Location: Center for Mathematical Modeling, University of Chile.

Start time: As soon as possible.

Salary : 1.5-2.5 MCLP (2-3.4 kUSD) per month before taxes, full time equivalent (according to experience).

Contract: 3 months probationary period followed by a fixed term contract.

REQUISITES

Computer Science, Informatics, Electrical Engineering, or similar studies required.

Minimal: Willingness to work in a team, machine learning or massive data processing experience, **Python**, git, Linux, databases, intermediate level English.

Desirable: Spark, Kafka, NoSQL databases, Vue, C++, AWS, Docker, Kubernetes, unit testing, advanced level English.

If you want to know more about our project, visit our website <http://alerce.science/>

Contact us!

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