

Full-Time Engineer Position Available in Project ANID Fondef TA23I10055

The project seeks to hire a **full-time engineer** to work on the **Fondef ANID/TA23I10055** project titled “Sistema Integrado de Monitoreo Predictivo Electro-Mecánico y Estructural para Aerogeneradores.” This project, led by **Universidad de los Andes** and **Universidad de Chile**, focuses on monitoring wind turbine components' electromechanical and structural behaviour to detect degradation in the blades and drivetrain. To achieve this, the project is developing specialized sensors installed on a 1MW wind turbine to collect operational data for further processing. The full-time engineer will contribute by working on data processing and developing algorithms to identify the wind turbine's natural frequencies.

Duration: The contract will be annual, renewable for 2 years, and subject to performance.

Benefits: The Full-Time Engineer contract considers the payment of CLP \$2,200,000- gross salary per month.

Successful applicant duties: The Project TA23I10055 Full-Time Engineer hired under this call must:

- Maintain fluid and informative communication with the rest of the team.
- Participate in the elaboration of project documentation, such as reports.
- Participate in project meetings and field trips if required.
- Carry out research in data science applied to system monitoring.
- Propose solutions to the project's technological challenges.
- Other requested tasks related to the project work.

Applicant Requirements:

- Availability to work full-time in Santiago (Chile), at the Universidad de Chile (Av. Tupper 2007, Santiago).
- Availability to visit Universidad de los Andes (Monseñor Alvaro del Portillo 12455, Santiago) when needed.
- Availability to travel within Chile when necessary for the project execution.
- Not having full-time employment during the duration of the contract.
- Professional certification in Electrical Engineering, Mechanical Engineering, Civil Engineering or similar with experience in data science and machine learning by the contract's start.
- Demonstrate experience in data science, modelling of dynamic systems
- Demonstrate experience developing algorithms for diagnostic equipment.

Mandatory Knowledge:

- Excellent oral and written English communication skills, including communicating adequately when discussing complex information.
- Capacity to write technical reports.
- Analytical ability to facilitate conceptual thinking, innovation and creativity.
- Ability to do independent research within the context of a team.
- Experience in data mining and visualization techniques.
- Experience in implementation of classification algorithms and machine learning.
- Experience in monitoring and fault diagnostic of structural and electromechanical systems.

Desired Knowledge and Skills:

- SQL: Queries (basic to medium level), table creation/update, insertion of new information
- Python:
 - o Data manipulation and analysis (Pandas, Numpy, Scikit-learn).
 - o Deep Learning: Keras, Pytorch, Jupiter, Flask
- Visualization: Plotly
- Database: pyodbc, pymysql.
- Cloud technologies: Google.

- Airflow platform
- Repositories: github, gitlab, bitbucket.

Needed Skills

- Proactivity
- Self-learner
- Fluid and assertive communication
- Objective oriented
- Capacity to work in multidisciplinary teams
- Resolution and decision-making capacities

Required Application documents:

- A cover letter explaining the interest in participating in the Fondef TA23I10055 project, stating how the applicant's experience and achievements are related to the project.
- Curriculum Vitae, including academic and professional experience, publications list, participation in conferences, and other projects. It is strongly recommended that the candidate provides research output links to ORCID, WoS, Scopus, and Google Scholar, showing their productivity.
- Three reference letters have to be provided. They have to be sent directly to rastroza@miuandes.cl, morchard@u.uchile.cl.
- Copy of professional certification certificate (or higher degree obtained).

An interview will be conducted with the preselected candidates.

Evaluation of Applications:

The Evaluation Committee comprises the main research team of the TA23I10055 project. The applicants will be selected and ranked considering the following criteria:

1. Academic Background and Research = 50%
2. Relevance of the research area and relationship with the TA23I10055 project = 20%
3. Interview = 30%

Each point will be graded on a scale from 1 to 5, with one being considered a poor evaluation and five an excellent evaluation. The applicant with the highest scores will be selected to occupy the position of Full-Time Engineer in the Fondef TA23I10055 project. A minimum application score of 3.5 is required for the application to be successful.

Submitting an application:

All application documents must be sent to rastroza@miuandes.cl, and morchard@u.uchile.cl, specifying in the email subject: "Full-Time Engineer Position – Fondef TA23I10055 – Name of the Applicant". Applications must be submitted in English.

Important dates: Applications deadline: **30th of April 2025**.

Contacts:

For more information about the project and the position please contact:

Director: Rodrigo Astroza - rastroza@miuandes.cl

Alternate director – Marcos Orchard - morchard@u.uchile.cl