



INRIA CHILE POSTDOCTORAL RESEARCHER PROGRAM - 2023

ABOUT THE POSITION

Inria Chile is seeking highly motivated and talented **Postdoctoral Researchers** to join our team at Communications and Information Research and Innovation Center (CIRIC). Successful candidates will contribute to cutting-edge research projects in the frontier of artificial intelligence, machine learning, modeling, internet of things, among many others, with applications in astronomy and astrophysics, ecology and climate change, health and safety, smart agriculture, among others, and in collaboration with our academic and industry partners.

Postdoctoral positions have a one (1) year duration with a possible extension of another year depending on performance. This is a unique opportunity to work in a dynamic and collaborative research environment, engaging with leading experts in the field and making a significant contribution to advancing the state of the art.

FOCUS AREAS

Applications should address one or more of Inria Chile's research focus areas (more details available at <https://www.inria.cl/en/research-innovation>):

- **Novel approaches to machine learning:** multimodal/multitask learning, reinforcement learning, optimization algorithms, etc. with applications to vision, structured information, sequences, and/or natural language.
- **Metaheuristics and optimization:** AutoML, evolutionary computing, Bayesian optimization, nature-inspired computing, multi-objective optimization, and green AI/ML.
- **Natural language processing and (large) language models:** generative models, low-resource NLP, emergent behaviors, and problem-solving agents.
- **Reasoning, causality, explainable AI, and ethical AI:** neuro-symbolic systems, explainable models for a human-centric AI, conformal prediction, underspecification, impact on society, etc.
- **Physics-informed machine learning, PDEs and modeling:** models that seamlessly integrate mathematical physics models and data-based learning. Focus on ecology and Navier-Stokes models.
- **Machine learning on the edge:** Internet of Things, sensor fusion, and robotics.
- **Multidisciplinary applications of AI:** AI approaches to open key scientific or societal problems.

RESPONSIBILITIES

- Conduct independent and collaborative research.



- Develop and implement novel algorithms, methodologies, and solutions to address research challenges.
- Design and conduct experiments, simulations, and data analysis to validate research hypotheses.
- Publish research findings in top-tier conferences and journals.
- Present research results at conferences, seminars, and workshops.
- Collaborate with interdisciplinary teams of researchers and engineers within Inria Chile and with external partners.
- Mentor and supervise graduate students and interns as necessary.
- Contribute to the dissemination of knowledge through open-source projects and public engagement.
- Participate in outreach and dissemination activities.
- Stay up-to-date with the latest developments and trends in the field.

REQUIRED QUALIFICATIONS

- Ph.D. in computer science, mathematics, engineering, statistics, or related fields.
- Proven track record of publishing research in reputable conferences and journals.
- Problem-solving and analytical skills.
- Strong programming skills, preferably in languages such as Python, Julia, R, or similar, and experience with relevant tools, frameworks, and libraries.
- Excellent communication skills, including the ability to convey complex ideas to both technical and non-technical audiences.
- Ability to work independently and in a dynamic, multidisciplinary, and collaborative research environment.

Desired Qualifications (not mandatory):

- Prior experience in industry or technology transfer.
- Experience with grant proposal writing and project management.
- Teaching and other pedagogical experience.



BENEFITS

- Competitive gross month salary of **\$2.578.680 Chilean pesos** (approx. **2750 USD**)
- Annual bonus equivalent to one additional month's salary per year.
- Inria Chile employee's benefits package:
 - Supplementary health insurance (*seguro de salud complementario*) covered by Inria Chile.
 - Additional benefits and discounts via our *Caja de Compensación* (see <https://beneficios.losheroes.cl/beneficios/index.xhtml>).
- Access to Inria's state-of-the-art computing facilities and resources.
- Opportunities for professional growth and development in collaboration with Inria researchers in Chile and France.
- Collaborative and inclusive work environment.
- International research collaborations and networking opportunities.

ABOUT INRIA CHILE

Inria, the French digital sciences research institute (<https://inria.fr>), is a leading research institute dedicated to advancing computer science and technology through innovative research and technology transfer. It does so by addressing the challenges of modern computing and applied mathematics, often at the interface of other disciplines, and with applications in health, energy, the environment, and the climate, among others. Inria works with many world-class academic partners, and companies, and has helped in the creation of more than 160 start-ups.

The Inria Chile Research Center (<https://inria.cl>) was founded in 2012 and is the only center of Inria abroad France. Inria Chile works closely with Chilean academics and companies to address the challenges of the Chilean digital transformation of science, society, and the economy.

WHY WORK IN INRIA CHILE?

We are an organization that promotes constant learning. Everything we do is innovative and it's because we are learning every day. At Inria Chile, you can participate in our Science Days as well as the courses at our Tech Training Center, in which world-class experts and a wide variety of guest speakers participate. We have a strong commitment to continuous personal training. Inria Chile is the place where you will have the opportunity to continue learning with your coworkers.

We value diversity. We believe in diversity as a driver of innovation and that is why we seek to hire, support, and promote people of all genders, nationalities, ethnicities, and all levels of experience, regardless of their age. We especially encourage applications from women, people of color, members of the LGBTQA+ community, gender non-binary people, and people with disabilities.



We value inclusion. We know the value that people's individual experiences and perspectives can bring to an organization. At Inria Chile, we are building a culture in which all voices are heard, respected, and considered.

We emphasize a healthy work-life balance. We believe our team members are happier and more productive when there is an optimal work-life balance. While we value the powerful results that drive our mission, we also value family dinners, weekends, and vacation days. We have excellent vacation and health benefits.

We are collaborative and transparent. We are a solid team, we all move with a common purpose. We are quick to cheer on our successes, and even share and solve our problems together.

We are friendly. You are likely to feel comfortable with each of the people who work here. We care about building and promoting a positive, respectful, and motivating work environment, which is born from, for, and with each of our collaborators.

Inria Chile is proud to be a full equal opportunity employer. We do not discriminate on the basis of race, religion, color, national origin, sex (including pregnancy, childbirth, or related medical conditions), sexual orientation, gender, gender identity, gender expression, transgender, sexual stereotypes, age, disability, or other legally protected characteristics.

5. HOW TO APPLY

Interested candidates should submit the following documents to oportunidades@inria.cl indicating the "Postdoctoral researcher position" in the title.

- Updated CV with a full list of publications.
- Cover letter (1 page max.) containing:
 - Previous research experience (not necessarily in AI).
 - Explain why you want to focus your research on AI.
 - What focus areas would you like to address, justifying this selection.
- Research proposal (2 pages max.) outlining your research goals for the next two years.
- Contact information for at least two references.

Application deadline : Positions will be opened until filled. Apply as soon as possible.