Company Description

The University of Deusto was founded in 1886 by the Society of Jesus. With campuses in Bilbao and San Sebastian and branches in Vitoria and Madrid, its hallmarks are education in skills and values, thanks to its own socially recognised teaching model. It is also characterised by its specialist research ,
its commitment to
justice and international outreach.
The mission of DeustoTech - Deusto Technological Institute is to serve society and the business community in its technological and digital transformation, promoting research, training and transfer activities in the field of Information and Communication Technologies, under humanistic and development values. sustainability that characterize the University of Deusto.

Information

- Deadline: 2024-06-15
- Category: Academia
- Province: Bizkaia
- Country: Basque Country
- City: Bilbao

Company

Universidad de Deusto

Deusto

Main functions, requisites & benefits

Main functions

General call for Grants allocated to Research Projects orGroups to pursue Doctoral Studies in Quantum-Inspired Techniques for Machine Learning and Optimization Purpose of the Position: The domain of quantum inspired approaches has experienced significant expansion, attracting attention from the international research community. As a distinct branch of quantum machine learning and/or optimization models, quantum inspired approaches are dedicated to the creation of classical algorithms that are influenced by quantum mechanics principles yet operate within a traditional computational environment. The intricacies of designing and implementing quantum-inspired models constitute a challenging area of research, with efforts directed towards outperforming traditional algorithmic standards or exploring the distinctive features inherent in quantum-derived models. Contemporary research in quantum-inspired machine learning and optimization is increasingly centered on employing tensor networks. These models leverage an extensive foundation of pre-existing knowledge from classical domains, enriching both the machine learning and optimization disciplines. Moreover, tensor networks maintain an optimal equilibrium between expressive capability and computational efficiency, making them an especially advantageous and intuitive category of quantum circuits. Given the profound theoretical knowledge of their characteristics and the robust algorithms available for their optimization, there is a strong belief that they will offer numerous benefits. The underlying hypothesis of this research posits that quantum-inspired methodologies, such as tensor networks, can enhance artificial intelligence and machine learning models. The research focuses on enhancing the speed and efficiency of tensor network models, achieving an equilibrium between complexity and effectiveness. Title of the project to be incorporated: Quantum Lab (DeustoTech) at the University of Deusto. PI and/or Project Manager: Iker Pastor y Pablo García Bringas. Funding Entity: Project: Plan de Impulso de Últimas Tecnologías de Computación Cuántica.

Requisites

Qualifications: Enrolled as PhD student (priority). Experience: Artificial intelligence, physics, quantum computing basics, scientific writing experience.

Benefits

Endowment of the Contract: Gross salary year 1 of contract: 25.973,10 € Gross salary year 2 of contract: 25.973,10 €