Position Offered: PREDOCTORAL RESEARCHER

Project: *Development of AI Techniques for the Design, Optimization, and Autonomous Operation of RF-to-Digital Interfaces in IoT Devices*

Technological and scientific fields: Artificial Intelligence, Advanced Data Analytics/EdgeComputing, Sensoring

Location: Sevilla, Andalucía, Instituto de Microelectrónica de Sevilla, http://www.imse-cnm.csic.es

Research Group/PI: Digital and Mixed-Signal Design /Gustavo Liñán Cembrano

PROJECT SUMMARY

The Project aims to develop and apply new Artificial Intelligence techniques in the Design and Operation of RF-to-Digital Interfaces for Software-Defined Radio (SDR) transceivers intended for the Internet of Things. The goal is to employ AI to analyze the radio spectrum in the environment of the IoT device to identify the optimal frequency band for operation. Additionally, the microelectronic design of the system will also be AI-assisted; starting from high-level specs, a trained AI will provide a valid high-level block design, moreover, from these block-level specs, valid electrical designs will also be obtained by specifically trained and optimized AIs. This project is fully oriented towards the completion of the candidate´s doctoral thesis and encompasses a detailed, comprehensive, and ambitious training program in both microelectronics design and AI, including two 3-months residencies at prestigious institutions.

PROFESSIONAL PROFILE

Minimum requirements:

Official Univ. Bachelor's Degree in (and/or): Physics, Mathematics, Dual Degree Physics-Mathematics, Computer Science, Electronic Engineering, Robotics and Mechatronics Engineering, Telecommunications Engineering.

Languages: Fluency in Spanish and/or English. (Level B2 or Higher)

Merits to be considered:

Official University Master's Degree in (and/or): Microelectronics, Telecommunications Engineering, Computer Science, Microelectronics: Design and Test of Micro/Nano scale Systems, Artificial Intelligence.

WHAT IS OFFERED

To develop a doctoral thesis in a field of absolute prevalence and great current projection. The candidate will receive high-level training in areas with significant professional prospects: artificial intelligence and microelectronics design. The candidate will join a consolidated team with on-going projects in complementary topics, enabling him/she to successfully tackle the challenges posed. Additionally, two 3-months stays at prestigious institutions will be carried out, offering the opportunity to start building his/her future professional network.

Contract conditions:

Predoctoral Researcher contract of 4 years' duration. Gross annual salary of 23,871.33 €.

Start of contract: before 31 December 2024

PRINCIPAL INVESTIGATOR CONTACT

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