CALL 30 - Researcher position in OpenSim Research Unit

WHO ARE WE LOOKING FOR?

The recently stablished Open Simulations (OpenSim) Research Unit, a part of the former Mobile Networks department of the Communication Networks Division of the CTTC, is searching for interested candidates in a Researcher position to become its Main Experimental Researcher. For more information about the former Department please refer to http://networks.cttc.cat/mobile-networks/ (the new CTTC structure will soon be available). The successful applicant should have a PhD degree in Telecommunications, Electronic Engineering, Computer Science. We offer a permanent position to work on the design and development of 5G RAN and beyond and to work on the maintenance, exploitation, design, and promotion of ns-3 5G-LENA module and its various extensions (NR-U, NR V2X).

WHO ARE WE?

The Centre Tecnològic de Telecomunicacions de Catalunya (CTTC) is a self-standing, public sector non-profit research institution devoted to fundamental and applied Research activities, mainly focused on technologies related to the physical, data-link and network layers of communication systems, and to the Geomatics.

In November 2015, the CTTC obtained the 'HR Excellence in Research' Award from the European Commission. This is a recognition of the Institute's commitment to developing an HR Strategy for Researchers, designed to bring the practices and procedures in line with the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers (Charter and Code).

We have great benefits for employees: work-life balance measures (33 working days of vacation, teleworking plan, flexible working hours); paid sick, maternity and paternity leaves; Tax-free benefits (ticket restaurant, kindergarten, health insurance and transport), Continuous training

The CTTC is in the Mediterranean Park of Technology in Castelldefels, a scientific parc that hosts the Polytechnic University of Catalonia, research institutions, and innovative companies and startups. The PMT-UPC is located 10 minutes' walk from the beach and to Castelldefels city center, also close to kindergartens, public and top international schools. It can be reached by car, train (RENFE) and several bus lines.

We have 2 buildings in the campus, with state-of-the-art facilities, comfortable working spaces, meeting and multi-purpose rooms and social spaces.

The institute has a multicultural environment with more than 130 members (scientific, technical, and administrative staff) from all over the World.

QUALIFICATIONS AND EXPERIENCE

Applicants must hold a PhD degree in telecommunications, computer science, electrical engineering, or closely related fields. We are looking for a researcher interested in and capable of designing and developing network simulators for 5G and beyond networks. Also, the candidate should be highly-motivated and capable of conducting independent research, as well as demonstrating excellent skills to carry out highly innovative R&D work in collaborative projects and industrial projects. In particular, the candidate will join a group that is in charge of building new 5G and 6G modules in the context of the ns-3 open source simulator.

The required skills and experience are:

General skills

- Deep knowledge of cellular mobile communication systems, LTE/NR (10 points)
- Experience in implementation of system level simulators, with background in the design of scalable and high fidelity system simulations (10 points)
- Strong experience and capability in the system level evaluation of wireless cellular systems (10 points)
- Strong oral and written English communication skills and a strong publication record (5 points)

Specific technical and development skills

- Knowledge of 3GPP 4G, 5G, and beyond 5G cellular technologies, including radio resource management (5 points)
- Experience with cellular technologies in unlicensed spectrum (LAA, LTE-U, NR-U) and coexistence with IEEE WiFi/WiGig (10 points)
- Previous experience at developer and maintainer level with ns-3, with knowledge of ns-3 module development and ns-3 event scheduling, development toolchain waf, and ns-3 test environment (10 points)
- Knowledge of ns-3 LTE, NR, NR-U, WiFi, WiGig, and spectrum modules (10 points)
- Excellent programming skills in C/C++ and Python (5 points)
- Knowledge of Linux distributions and command line interface, including shell/bash scripting and system variables (5 points)
- Demonstrated previous experience with debugging tools like gdb and Valgrind (5 points)
- Knowledge of Integrated development environments (IDE), e.g., Eclipse, Kdevelop, or NetBeans and having developed simulation execution automation tools (5 points)
- Knowledge of pcap trace analysis and related tools for network protocol analysis (e.g., Wireshark, Tcpdump, etc.) (5 points)
- Knowledge of tools for executing large scale ns-3 simulation campaigns through parallelization with databases, e.g., ns-3 simulation execution manager (SEM) (5 points)

WHAT WE OFFER:

The contract is permanent. The rank and gross salary, in the range 40360-41873€ (gross per year), will be determined according to qualifications and work experience. The position corresponds to the R3A professional category at CTTC. More information about CTTC professional categories is available at: http://www.cttc.es/wp-content/uploads/2015/04/CTTC-Professional-categories.pdf

HOW TO APPLY:

Researchers interested in joining the OpenSim Research Unit should send their curriculum vitae in PDF format through this online application. No applications received by email will be taken consideration for the position.

Applications should include:

- Full CV, including a list of publications and name (email address, etc.) of two referees

- PhD Degree

- Cover letter stating the motivation and suitability of the candidate

CVs and any other information gathered during this process will be handled confidentially. Since the publication date, the offer will be open during two months.

CTTC offers and promotes a diverse and inclusive environment and welcome applicants regardless of age, disability, gender, nationality, race, religion, or sexual orientation.

CTTC seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply. CTTC is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals.