



**INTERNSHIPS FOR RESEARCH ENGINEERS/COMPUTER SCIENTISTS
BELL LABS DUBLIN (IRELAND) – BELL LABS STUTTGART (GERMANY)**

Background

Bell Laboratories is a leading end-to-end systems and solutions research lab working in the areas of cloud and distributed computing, platforms for real-time big-data streaming and analytics, wireless networks, semantic data access, services-centric operations and thermal management. The lab is embedded in the great traditions of the Bell Labs systems research, internationally renowned as the birthplace of modern information theory, UNIX, the C/C++ programming languages, Awk, Plan 9 from Bell Labs, Inferno, the Spin formal verification tool, and many other systems, languages, and tools.

We offer summer internships in our Cloud Computing team, spread across the facilities in Dublin (Ireland) and Stuttgart (Germany), focusing on research enabling future cloud and distributed computing applications, virtualised network functions, software-defined networks and real-time communications.

A successful candidate will have strong experience in distributed systems, computer networks, operating systems, virtualisation, multimedia systems, and is expected to be able to design and build systems.

Role description

- Design and develop components, tools, middleware supporting challenging research activities on cloud and distributed computing, with a particular focus on adaptive and elastic services.
- Publish the outcomes of the research in major scientific venues worldwide, including top conferences and journals.
- Contribute in a positive manner to the creative and innovative atmosphere in Bell Labs.

Qualifications, skills, and experience

The ideal candidate is a PhD student in computer science or engineering or any related field, with a research program involving cloud and distributed computing and associated networking technologies. He or she must possess excellent problem solving skills, be an autonomous developer and a self-starter, and be a team player. A successful candidate is a versatile, flexible and hands-on person.

Candidates are expected to have some experience related to the following topics:

- Operating systems, virtualisation and computer architectures.
- Software development skills (C/C++, Python).
- Computer networks and distributed systems.
- Optimisation techniques and algorithms.
- Probabilistic modelling of systems performance.

The following skills or interests are also desirable:

- Experience with OpenStack or OpenNebula or other cloud infrastructure management software.
- Kernel-level programming (drivers, scheduler,...).
- Xen, KVM and Linux scripting/administration.
- Parallel and distributed systems programming (MPI, OpenMP, CUDA, MapReduce, StarSs, ...).
- Simulation of distributed systems.
- OpenFlow, Mininet

Key attributes

- Good written and oral communication skills, able to participate in robust discussions in English.
- Provable experience with programming and OS administration (Linux, UNIX).
- Able to autonomously develop software.

Benefits

The candidate will have the opportunity to acquire system-level experience and competencies in the area of cloud and distributed computing, focusing on latency and performance control for cloud applications. These skills are at the heart of nowadays industrial and research efforts building the IT systems of tomorrow. Also, the candidate will get familiarity with, and will have an opportunity to contribute to, the unique dynamic research environment of Bell Labs, the innovation engine of Alcatel-Lucent.

Application

In order to apply, please, send an e-mail of interest enclosing your full CV and a research statement letter to: tommaso.cucinotta@alcatel-lucent.com.