

# Ofertes PFC/TFG/TFM en Empreses: tardor / primavera 2016-17



## Empreses on pots fer el PFC

### Empreses i Institucions que ofereixen projectes a l'ETSETB i que gestiona l'escola Última actualització: 02 de Gener del 2016

Quan demaneu una plaça mitjançant l'Intranet, ho haureu de fer en referència al codi que surt a la taula.

Aetha Consulting Limited

Bell Laboratories

Intel Denmark

IPAL

Lumileds Research

NEC Laboratories Europe

Technicolor

TryaGnoSys GmbH

## Aetha Consulting Limited

### Aetha Consulting Limited. Cambridge, England

Codi	UK AethaCamb_1
Estudis	Graus i Màsters
Tipus d'estada	TFG, TFM
Descripció	<p><b>Internships in strategy consulting boutique in Cambridge, UK</b></p> <p>Aetha Consulting is a consultancy firm providing strategic advice to the telecommunications industry worldwide. Aetha is based in Cambridge, UK, but the vast majority of our work is done outside the UK. Aetha may be the place to start your career if you:</p> <ul style="list-style-type: none"> <li>- Enjoy being challenged by complex problems</li> <li>- Have a strong interest in technology</li> <li>- Like the varied working environment of a young company</li> <li>- Aim to take on responsibility early in your career</li> <li>- Enjoy international travel.</li> </ul> <p>You will form part of a recently-formed small but fast-growing company, you can expect to work directly with the company's Partners, and can therefore expect to develop your consulting skill set at a faster rate than would be possible in a larger consultancy organisation.</p> <p>We intend to incorporate you into one or more of our project teams working on strategy projects for mobile or broadband operators, a telecommunications/media regulator, or similar. At the time of writing, we do not know what those projects will be, because they depend on client needs. You will be provided with terms of reference, a line manager, a mentor, and you will work in close collaboration with project managers and other team members. In the unlikely event that a suitable client project does not materialise, we will assign you to an internal consulting project to improve our own business processes.</p> <p>Contact: CVs must be in English. You must provide recent grade transcripts. Please state in your email title "Business analyst intern"</p>
Inici	Summer vacation internship (though we can be flexible depending on candidates' availability)
Durada	Summer vacation internship (though we can be flexible depending on candidates' availability)
Nombre de places	1
Requisits	<p>We are looking for highly motivated individuals with excellent grades in numerate subjects, plus a strong interest in solving complex problems.</p> <p>Experience is not a requirement. However, we are looking for people who are aiming to specialise in this sector in the future, so work experience in the telecoms or media sectors will give candidates a strong advantage.</p> <p>We are looking for people whose mother tongue is Spanish or Portuguese.</p> <p>In addition, you must already possess a very high level of English, and be able to produce the highest quality reports and other materials without the need for correction, editing or other support; you must be able to follow and contribute to fast-moving and complex business discussions in English. It is very unlikely that a person with a level below C2 of the CEFR would pass the screening interview.</p> <p>We are seeking individuals whose degrees have a strong numerate content (e.g. mathematics, science, engineering, accounting or economics). Candidates doing only law or business studies are not normally successful, unless supplemented with some other quantitative background.</p> <p>We are looking for expected degree grades equivalent to a UK "2:1" (8/10 "Notable", for most Spanish</p>

	universities).
Compensations	A compensation will be given

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## Bell Laboratories

### Bell Laboratories (Alcatel•Lucent). NJ, EUA. Professor de contacte: Joan M. Gené Bernaus

Codi	USA AlcatelNJ_1
Estudis	Pla 92, Màster i graus
Tipus d'estada	TFG, PFC, TFM
Descripció	<p><b>High Capacity Fiber-Optic Transmission Systems</b></p> <p>Introduction and Short description: Bell Labs (<a href="http://www.bell-labs.com">www.bell-labs.com</a>) has helped weave the technological fabric of modern society. Since its founding in 1925, technology from Bell Labs has shaped the ways people live, work and play. Over the past 80 years, the Bell Labs R&amp;D community has made seminal scientific discoveries, created powerful new technologies, and built the world's most advanced and reliable networks. Here are some Bell Labs innovations that changed the world: The Transistor (1947), Shannon's Information Theory (1948), Laser (1958), Communications Satellites (1962), The CCD (1969), Unix Operating System and C Language (1969-1972), Digital Signal Processor (DSP) (1979), Optical WDM systems and networks (1990), First 100G Ethernet transmission (2005).</p> <p>Project: In 2010 the theoretical capacity limit of a single-mode fiber was found. The forecasted demand of data traffic will exhaust the capacity of the installed fiber plant by 2020. New fiber-optic designs are required in order to guarantee an efficient and sustainable increase in terms of cost and energy consumption for the following 30 years. Spatial division multiplexing in its two flavors, multi-mode and multi-core fibers, has become the new research paradigm. The scope of the project is to investigate on advanced transmission and detection techniques to exploit the capacity of the new optical fiber. Some scientific references on the topic are:</p> <ul style="list-style-type: none"> <li>• Winzer, P.J., "Spatial Multiplexing in Fiber Optics: The 10X Scaling of Metro/Core Capacities," Bell Labs Technical Journal, vol.19, no., pp.22,30, 2014.</li> <li>• René-Jean Essiambre, Gerhard Kramer, Peter J. Winzer, Gerard J. Foschini, Bernhard Goebel, "Capacity Limits of Optical Fiber Networks", IEEE-OSA Journal of Lightwave Technology, vol. 28, no. 4, pp. 662-701, February 2010.</li> <li>• Bell Labs - Future Impossible (YouTube Channel) - The Shannon Limit</li> </ul> <p>Location: 791 Holmdel-Keyport Rd., Holmdel, NJ 07733, USA <a href="https://maps.google.com">maps.google.com</a>: 40°23'25,8"N-74°11'12,7"W 70 Km from Manhattan (New York City) <a href="http://www.nycgo.com">www.nycgo.com</a> Public Transport: <a href="http://www.njtransit.com">www.njtransit.com</a> Newark Int. Airport: <a href="http://www.panynj.gov/airports/newark-liberty.html">www.panynj.gov/airports/newark-liberty.html</a></p> <p>Application: <a href="http://www.etsetb.upc.es/info_per_a/estudiants/mobilitat_internac/Procediment_de_sollicitud_de_places.html">www.etsetb.upc.es/info_per_a/estudiants/mobilitat_internac/Procediment_de_sollicitud_de_places.html</a></p> <p>Contact persons: - Peter Winzer (<a href="mailto:peter.winzer@alcatel-lucent.com">peter.winzer@alcatel-lucent.com</a>) - Joan M. Gené (<a href="mailto:joan.gene@upc.edu">joan.gene@upc.edu</a>)</p>
Inici	September 2016 - February 2017
Durada	6-12 months (12 months preferable)
Nombre de places	1
Requisits	Excellent academic records, good English knowledge, fiber-optic communications, digital communications, signal processing, VHDL programming, Matlab programming.
Compensations	A compensation will be given

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## Intel Denmark

### Intel Denmark. Aalborg, Denmark.

Codi	DK IntelAalb_1
Estudis	Graus i Màsters
Tipus d'estada	TFG, TFM
Descripció	<p><b>Advanced receivers for 5G millimeter waves communications</b></p> <p>Over the last decade, the demand for mobile data has been steadily growing. In response, the industry engaged in two different types of research efforts. First, it concentrated on increasing the spectral efficiency of the fourth generation of mobile radio access technologies - LTE-Advanced being the most illustrious example of such an effort. More recently, the focus has been shifting towards millimeter communications, which is one of the key aspects defining the fifth generation (5G) of mobile radio access technologies.</p>

	<p>As one of the largest suppliers to the wireless value chain, Intel is at the forefront of millimeter communication research. Within the scope of the internship, you will support a group of engineers and researchers in designing innovative solutions for 5G cellular systems. Specifically, you will join our team in assessing the performance of advanced receivers by means of detailed link- and system-level simulators.</p> <p>Contact: If preferred, the internship can be offered in conjunction with a graduation project. Please send CV and motivation letter to the following contact: Dr.-Ing. Tommaso Balercia (tommaso.balercia@intel.com) Xavier Carreño (xavier.carreno@intel.com)</p>
Inici	1st September 2016 (approximate)
Durada	9 to 12 months
Nombre de places	3
Requisits	<p>Familiarity with the following topics is required:</p> <ul style="list-style-type: none"> <li>- Digital communications</li> <li>- Signal processing</li> <li>- Written and oral English</li> </ul> <p>Exposure or experience with any of the following topics is preferred:</p> <ul style="list-style-type: none"> <li>- Programming in MATLAB</li> <li>- Programming in C/C++</li> <li>- LTE/LTE-A</li> <li>- Team work</li> </ul>
Compensations	A compensation will be given
Codi	DK IntelAalb_2
Estudis	Graus i Màsters
Tipus d'estada	TFG, TFM
Descripció	<p><b>Advanced System Testing Methods for LTE/LTE-A</b></p> <p>In the ever expanding field of wireless telecommunications, technologies like LTE and LTE-Advanced are rapidly becoming essential in providing the desired level of connectivity in a wide range of use cases. These radio access technologies pose however, new challenges in developing and testing products that incorporate above mentioned radio access technologies.</p> <p>With the introduction of LTE-Advanced, Intel® is developing novel methodologies to test wireless technologies, including LTE and LTE-A. Within the scope of this internship, you will join a team of skilled engineers developing methods to enable the emulation of the field conditions in controlled laboratory environment. In particular, under the supervision of such a team, you will:</p> <ul style="list-style-type: none"> <li>- Develop an understanding of LTE/LTE-A</li> <li>- Improve automation to accurately generate performance results</li> <li>- Test on Intel® development products as well as on the latest available handheld devices</li> </ul> <p>Contact: If preferred, the internship can be offered in conjunction with a graduation project. Please send CV and motivation letter to the following contact: Jukka-Pekka Nuutinen (jukka-pekka.nuutinen@intel.com) Xavier Carreño (xavier.carreno@intel.com)</p>
Inici	1st September 2016 (approximate)
Durada	9 to 12 months
Nombre de places	1
Requisits	<p>Familiarity with the following topics is required:</p> <ul style="list-style-type: none"> <li>- Programming in MATLAB</li> <li>- Programming in Python</li> <li>- Written and oral English</li> <li>- Team Work</li> </ul> <p>Exposure or experience with any of the following topics is preferred:</p> <ul style="list-style-type: none"> <li>- Hardware automation</li> <li>- Programming in C/C++</li> <li>- Digital communications</li> </ul>
Compensations	A compensation will be given

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## IPAL

### IPAL. Singapore.

Codi	SG IPALSing_1
Estudis	Màsters
Tipus d'estada	TFM
Descripció	<p><b>Android App for Context-Aware Interaction in Ambient Assisted Livings</b></p> <p>Making use of the transition towards ubiquitous environments where embedded computing devices seamlessly integrate and cooperate to serve human needs, we can design systems specially fitted to provide context-aware digital services. At IPAL, the UbiSmart framework is being developed to help the elderly lead an independent and purposeful life, through</p>

	<p>ambient assistive technologies. Therefore, we build smart homes, connected cars and smart cities, where sensors are deployed and reasoning algorithms implemented to gather knowledge about users' context. This knowledge can then be used to provide real-time services, as well as lifestyle assessment and coaching. Our next step is to provide a direct mean of interaction to the users, leveraging their usage of smart devices; and to study this interaction in order to evaluate the impact of our system on the quality of life of the users. The proposed project consists in building a Android mobile app able to adapt to the preferences of the user, as well as his context, by reshaping itself based on context information provided by our cloud-based framework.</p> <p>This internship will lead to the design and development of a mobile app in Android. The app will instantiate a 2-way communication with our cloud-based framework, in order to initiate interactions to the user according to his profile and context. It may also send sensor information from the mobile device, to be consumed in the cloud backend. Heavy reliance on REST APIs, sockets and push notifications is considered.</p>
Inici	First semester of 2016
Durada	5 to 6 months
Nombre de places	1
Requisits	<ul style="list-style-type: none"> <li>- Master Degree or Engineer Student (last year of studies).</li> <li>- Skills in Android development and ease with programming in general.</li> <li>- Strong motivation towards this challenging project.</li> </ul>
Compensations	A compensation will be given
Codi	SG IPALSing_2
Estudis	Màsters
Tipus d'estada	TFM
Descripció	<p><b>Image Retrieval</b></p> <p>The aim of this internship is to develop a new algorithm of image retrieval. We want to work on a metric for image comparison that is invariant to many variables (translation, rotation, etc...) but still robust. The two explored directions will be toward statistical methods and deterministic methods. On the technical aspects, the candidate have to be fluent in C/C++, Matlab and OpenCV. After a literature review, much of the work will consist of signal processing and algorithms design. This internship can lead to a PhD.</p> <p>This internship will lead to the delivery of a software. Another required deliverable is the report based on the state of the art on image retrieval that has to be written in English.</p>
Inici	First semester of 2016
Durada	5 to 6 months
Nombre de places	1
Requisits	<ul style="list-style-type: none"> <li>- Master Degree or Engineer Student (last year of studies).</li> <li>- C/C++, Matlab, OpenCV</li> <li>- Git</li> <li>- Good knowledge in Signal and Image Processing.</li> <li>- Strong motivation towards this challenging project</li> </ul>
Compensations	A compensation will be given
Codi	SG IPALSing_3
Estudis	Màsters
Tipus d'estada	TFM
Descripció	<p><b>Inertial Sensor Fusion</b></p> <p>The aim of this internship is to develop a new algorithm of sensors fusion. We focus on motion estimation based on inertial sensors. EKF is a non-linear filter that is very popular in the community of sensor fusion, it is the non-linear version of the Kalman filter. In this internship we will explore how to enhance this filter. On the technical aspects, the candidate have to be fluent in C/C++ and Matlab. After a literature review, much of the work will consist of signal processing and algorithms design. This internship can lead to a PhD.</p> <p>This internship will lead to the delivery of a software. Another required deliverable is the report based on the state of the art on sensor fusion that has to be written in English.</p>
Inici	First semester of 2016
Durada	5 to 6 months
Nombre de places	1
Requisits	<ul style="list-style-type: none"> <li>- Master Degree or Engineer Student (last year of studies).</li> <li>- C/C++, Matlab, OpenCV</li> <li>- Git</li> <li>- Good knowledge in Signal and Image Processing.</li> <li>- Strong motivation towards this challenging project</li> </ul>

Compensations	A compesation will be given
Codi	SG IPALSing_4
Estudis	Màsters
Tipus d'estada	TFM
Descripció	<p><b>Internet of Things Framework for Ambient Intelligence</b></p> <p>Making use of the transition towards ubiquitous environments where embedded computing devices seamlessly integrate and cooperate to serve human needs, we can design systems specially fitted to provide context-aware digital services. At IPAL, the UbiSmart framework is being developed to help the elderly lead an independent and purposeful life, through ambient assistive technologies. Therefore, we build smart homes, connected cars and smart cities, where sensors are deployed and reasoning algorithms implemented to gather knowledge about users' context. This knowledge can then be used to provide real-time services, as well as lifestyle assessment and coaching. The project incorporates research thematics including nomadic service delivery at home and in urban environments. We are currently packaging our system as a "smart home in a box" kit where a home gateway (1) pushes sensor data to a cloud-based platform where it is processed by server-side applications, and (2) provides the necessary subscriptions and configuration tools to access the cloud services.</p> <p>This internship will lead to the extension of the UbiSmart framework to additional usecases, focusing on urban locations and connected vehicles. It is targeted at separating the IoT (Internet of Things) core of the framework, from its use-case driven modules. This mission will be challenging as it requires modifications to multiple levels of the framework: e.g. communication, backend modules, semantic models, and reasoning rules. Additionally, a REST API may be developed to ensure the integration of external processing modules to augment the context-awareness aspect of the framework.</p>
Inici	First semester of 2016
Durada	5 to 6 months
Nombre de places	1
Requisits	<ul style="list-style-type: none"> <li>- Master Degree or Engineer Student (last year of studies).</li> <li>- Skills in programming, REST, Javascript, server-side applications, node.js.</li> <li>- Strong motivation towards this challenging project.</li> </ul>
Compensations	A compesation will be given
Codi	SG IPALSing_5
Estudis	Màsters
Tipus d'estada	TFM
Descripció	<p><b>GenericVisualSearchbasedonDeepAttentionModel</b></p> <p>Object detection has played quite important role in building intelligent robot in interacting with people and environment. Recently, important progress for improving the accuracy of object detectors has been made possible with Convolutional Neural Networks (CNNs), which leverage big visual data and deep learning for image categorization. While these techniques focused on still images, determining the exact location of a target object in a scene requires active engagement to understand the context, change the fixation point, identify distinctive parts that support recognition, and determine the correct proportions of the box,as conveyed in sequential video stream.</p> <p>The goal of this project is to develop general and efficient object search method for video stream like movie shot or even challenger RGBD streams shot by Kinect using state-of-the-art attention deep neural networks. The developed methods can be applied to various large scale video understanding tasks such as video object detection, classification, retrieval and description. Besides publication of the conducted research in reputable conferences and journals, the candidate is expected to develop a demonstrable software prototype.</p>
Inici	First semester of 2016
Durada	5 to 6 months
Nombre de places	1
Requisits	<ul style="list-style-type: none"> <li>- Master Degree or Engineer Student (last year of studies).</li> <li>- Knowledge/experience in image processing and computer vision.</li> <li>- Strong motivation towards this challenging project.</li> <li>- Open to work with both French and Singaporean scientists</li> </ul>
Compensations	A compesation will be given
Codi	SG IPALSing_6
Estudis	Màsters
Tipus d'estada	TFM
Descripció	<p><b>Holistic Scene Understanding for Indoor/Outdoor Navigation</b></p> <p>With the growing aging population, the number of seniors with dementia (SD) will greatly increase in the coming years. Holistic scene understanding technique can greatly help SD in daily life scenario –outdoor and indoor navigation. As a fundamental problem of computer vision, the developed holistic scene understanding technique can also generalize to other applications, such as auto-vehicle, medical and satellite imagery. In this project, we are interested in understanding scenes and reasoning about objects/events spatially and temporally using monocular image sequences, mobile depth sensor and state-of-the-art machine learning techniques, with focus on SD navigation assistance for the "last mile navigation" which typically happens indoors.</p>

	The goal of this project is to develop state-of-the-art 2D/3D scene understanding techniques with effective semantic representation and efficient inference methods based on probabilistic graphical model that reasons about the scene geometry, object localization and assign semantic class/attribute labels to objects under verbal guidance. Besides publication of the conducted research in reputable conferences and journals, the candidate is expected to develop a demonstrable software prototype.
Inici	First semester of 2016
Durada	5 to 6 months
Nombre de places	1
Requisits	<ul style="list-style-type: none"> <li>- Master Degree or EngineerStudent (last year of studies).</li> <li>- Knowledge/experience in image processing and computer vision.</li> <li>- Strong motivation towards this challenging project.</li> <li>- Open to work with both French and Singaporean scientists</li> </ul>
Compensations	A compensation will be given
Codi	SG IPALSing_7
Estudis	Màsters
Tipus d'estada	TFM
Descripció	<p><b>Video based Context Awareness for Ambient Assistive Livings</b></p> <p>Improving the quality of life for the elderly is at the center of Ambient Assisted Living (AAL). AAL technology endeavors to assist the elderly with cognitive decline by offering the ability to carry out routine tasks independently. Such technology uses different sensors, e.g., vision camera, infrared detector, accelerometer, etc. to monitor and react to the contextual needs of the elderly. With a video camera integrating various sensors, the visual environment can be captured, and meanwhile other data modality such as the walking speed can be captured by the embedded sensors. These sensor data coupled with the captured videos can be fused to derive useful contextual information that is helpful to the elderly to adapt their actions for a safe and healthy living outdoors.</p> <p>The candidate will design advanced computer vision and machine learning technology for automatic discovery of visual contextual information through a wearable camera, targeting ambient outdoors assisted living for the elderly. Typical contextual information such as traffic signs, traffic lights, potholes on the road surface, human falls, etc., will be investigated. Advanced traffic sign and vehicle detection techniques have been developed and the candidate is expected to further improve them.</p>
Inici	First semester of 2016
Durada	5 to 6 months
Nombre de places	1
Requisits	<ul style="list-style-type: none"> <li>- Master Degree or EngineerStudent (last year of studies).</li> <li>- Knowledge/experience in image processing and computer vision.</li> <li>- Strong motivation towards this challenging project.</li> <li>- Open to work with both French and Singaporean scientists</li> </ul>
Compensations	A compensation will be given

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## Lumileds Research

### Lumileds Research. Eindhoven, The Netherlands.

Codi	NL LumiledsEind_1
Estudis	Màster, Grau
Tipus d'estada	TFM, TFG
Descripció	<p><b>Optical scattering in phosphor-converted LEDs</b></p> <p>Description:</p> <p>Research group from company Lumileds is searching for graduate and undergraduate students willing to contribute to the solid state lighting revolution. The student/s will work in a high tech industry facility together with a professional research team of electrical engineers and physicists.</p> <p>The proposed area of investigation deals with numerical methods and computational techniques to model the processes of photo-conversion and light extraction in power LED (Light-Emitting Diodes) devices. We aim at predicting the performance of phosphors by describing the underlying physics responsible for the conversion of pump blue light into white light in most of our current LUXEON LED products (visit Lumileds website). A 3D optics model of a thin film LED micro-structure in combination with the phosphor particle models ought to be studied and predictions compared to experiments. The student will have the opportunity to closely work with a research team investigating a number of exciting fundamental physics mechanisms that will likely make LEDs the single most important light source technology in the near future.</p> <p>Context:</p> <p>Solid state lighting technologies are among the most prominent innovations influencing the way in which we improve our future by reducing energy consumption. So much so that the current 20% of the world's electricity consumed by lighting</p>

	can potentially be reduced to 4% with the full-scale adoption of LEDs. Owner: Toni Lopez (toni.lopez@lumileds.com), Advanced Architectures, Lumileds R&D, Eindhoven/The Netherlands
Inici	January 1 – July 31, 2016 (or earlier); extension possible
Durada	January 1 – July 31, 2016 (or earlier); extension possible
Nombre de places	1
Requisits	<ul style="list-style-type: none"> <li>- Good programming skills</li> <li>- Good mathematics skills, particularly, numerical methods for solving PDEs (frequency and time domain)</li> <li>- Good knowledge of Maxwell's equations</li> <li>- LED device physics knowledge</li> <li>- High motivation and good English (written and spoken)</li> </ul>
Compensations	A compensation will be given
Codi	NL LumiledsEind_2
Estudis	Màster, Grau
Tipus d'estada	TFM, TFG
Descripció	<p><b>Computational Techniques for LED Optical Microcavities</b></p> <p>Description:</p> <p>Research group from company Lumileds is searching for graduate and undergraduate students willing to contribute to the solid state lighting revolution. The student/s will work in a high tech industry facility together with a professional research team of electrical engineers and physicists.</p> <p>The proposed area of investigation deals with numerical methods and computational techniques to model the processes of light extraction in power LED (Light-Emitting Diodes) devices. We aim at the use of complex corrugated microstructures to boost the efficiency of our current LUXEON LED products (visit Lumileds website). A 3D optics model of thin film microstructures ought to be developed, tested, and experimentally validated. The student will have the opportunity to closely work with a team working on advanced multiphysics LED models to guide us in the understanding of a number of exciting fundamental physical mechanisms.</p> <p>Context:</p> <p>Solid state lighting technologies are among the most prominent innovations influencing the way in which we improve our future by reducing energy consumption. So much so that the current 20% of the world's electricity consumed by lighting can potentially be reduced to 4% with the full-scale adoption of LEDs.</p> <p>Owner:</p> <p>Toni Lopez (toni.lopez@lumileds.com), Advanced Architectures, Lumileds R&amp;D, Eindhoven/The Netherlands</p>
Inici	January 1 – July 31, 2016 (or earlier); extension possible
Durada	January 1 – July 31, 2016 (or earlier); extension possible
Nombre de places	1
Requisits	<ul style="list-style-type: none"> <li>- Good programming skills</li> <li>- Good mathematics skills, particularly, numerical methods for solving PDEs (frequency and time domain)</li> <li>- Good knowledge of Maxwell's equations</li> <li>- LED device physics knowledge</li> <li>- High motivation and good English (written and spoken)</li> </ul>
Compensations	A compensation will be given

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## NEC Laboratories Europe

### NEC Laboratories Europe. Heidelberg, Alemanya

Codi	D NECHeid_1
Estudis	Màster, Grau
Tipus d'estada	TFM, TFG
Descripció	<p><b>Cybersecurity over the Internet of Things</b></p> <p>Due to the proliferation of a myriad of interconnected devices (such as PCs, smartphones, smart sensors, smart appliances, etc.), recent studies show that the Internet is exponentially growing, day by day, generating massive amounts of data to be transmitted, stored and/or processed. Such phenomenon has been commonly called as the 'Big Data'. And this Big Data poses a number of challenges requiring novel and advanced techniques to address them. Thus for instance, due to the huge volume of data to be handled in these systems, traditional data bases solutions might become obsolete and inadequate, especially when such data need to be classified or categorized, or when hidden patterns in the data need to be extracted. In those scenarios, advanced data correlation mechanisms have been successfully proposed. Yet, there is another crucial aspect that must not be neglected, for the sake of a successful deployment and acceptance of these systems, namely, the privacy preservation of the sensitive data handled in there. Thus, NEC Laboratories Europe is seeking enthusiastic students willing to explore and contribute to the field of Secure and Private Data Mining, by collaborating and participating in an established research team, proposing their own innovative approaches. Students will</p>

	<p>be requested to put a special emphasis on high-quality publications, patents and input for standards</p> <p>NEC Laboratories in Heidelberg (Germany) provides an excellent working environment supporting individual creativity as well as strong teamwork. Please send applications electronically via the applications web system <a href="https://recruitment.nw.neclab.eu/">https://recruitment.nw.neclab.eu/</a> with reference to [2014-10-40-SEC]</p> <p>Project: Work on any aspect related to cybersecurity in the context of the Internet of Things. This includes, amongst others, development of robust, accurate, scalable and collaborative intrusion detection networks for IoT.</p>
Inici	September 2016
Durada	6 months
Nombre de places	1 - 2
Requisits	Security and networking background, Linux knowledge, software developing skills (Java, C++, Python, etc), Intrusion detection systems, SIEM, Machine learning, Penetration testing, etc.
Compensations	This information can be made available upon request by an interested candidate

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## Technicolor

### Technicolor. Hannover, Germany

Codi	D TechHan_1
Estudis	Màster, Pla92
Tipus d'estada	TFM, PFC
Descripció	<p><b>Image &amp; Video Processing</b></p> <p>DESCRIPTION: Work at the leading edge of media and entertainment technology. Join the 300 Technicolor researchers who are breaking new ground in digital innovation and inventing the future of digital media to create outstanding content and deliver unique consumer experiences for the home, theaters and on-the-go. In any of Technicolor Laboratories, you will discover a group of talented individuals from diverse backgrounds working together in a stimulating, state-of-the-art environment that fosters new ideas and unleashes creativity. Technicolor Research &amp; Innovation in Hannover, Germany, is working on Audio/Video systems for next-generation cinema movie productions as well as future broadcast solutions and archiving technologies.</p> <p>MISSION: Our goal is to learn new image and video models to produce future image processors. Several algorithms for image analysis, denoising, deblurring, upscaling and restoration are studied, improved or newly developed. You are eager to work on different machine learning, image processing and computer vision aspects and oriented to research in a scientific way.</p> <p>TASK: We permanently have several vacant internship positions, and offer master thesis opportunities in the above mentioned fields tailored to the skills of the students. You will be part of a challenging research project together with our motivated and experienced researchers.</p>
Inici	Summer (July - September)
Durada	6 months
Nombre de places	3
Requisits	The successful candidates are students of Communications Engineering or Computer Science having: <ul style="list-style-type: none"> <li>- Good knowledge in signal processing, information theory and computer vision</li> <li>- Advanced skills in C++ or MATLAB.</li> <li>- High motivation, strong communication abilities.</li> <li>- Fluent English.</li> </ul>
Compensations	This information can be made available upon request by an interested candidate

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## TryaGnoSys GmbH

### TryaGnoSys GmbH. Wessling-Oberpfaffenhofen, Germany

Codi	D TGSWess_1
Estudis	Màster, Grau
Tipus d'estada	TFM, TFG
Descripció	<p><b>Evaluation of the usage of LiFi for onboard avionics applications</b></p> <p>As experts in mobile communications, we are always interested in evaluating how cutting edge technologies may change the way how the on-board avionics applications communicate. LiFi, among other Visible Light Communication (VLC) technologies, is a promising candidate to replace some of the current communication schemes on aircrafts. The objectives of the thesis/internship are: to investigate and study the state of the art of such technology; to evaluate the potentiality/feasibility of LiFi for different applications in an aeronautical environment; and to build a proof of concept on real hardware.</p>

Inici	September 2016
Durada	6 months
Nombre de places	1
Requisits	Good knowledge in wireless communications, optical communications and programming.
Compensations	This information can be made available upon request by an interested candidate