Undergraduate Internship Program

Introduction

The Undergraduate Internship Program was launched in May 2014. The main goal is to provide high-quality research opportunities, offering undergraduates the possibility of developing their knowledge and skills as researchers, while opening perspectives for graduate studies and career opportunities in cutting-edge fields of Information and Communication Technologies.

Interns will complete eight to twelve weeks of full-time research activities, attend state-of-the-art research seminars, receive career counselling from program faculty and administrators, and will be invited to participate in various activities. This unique opportunity is provided by the Carnegie Mellon Portugal Program to encourage and prepare talented undergraduates to pursue careers in research in the scope of the scientific areas of the dual degree doctoral programs offered by the Program. Figure 1 below presents the targeted profiles of the candidates.

Admission Process

Only Portuguese citizens or foreign citizens with permanent residence in Portugal are eligible to apply to the Undergraduate Internship Program; applicants must be enrolled in a master program, or equivalent, at the time of application, or hold a master degree, or equivalent, granted less than 2 years before the time of application; applicants can not be enrolled in a Ph. D. program, at the time of application; applicants must also hold a degree with a final grade of 14 or higher (exceptionally, applications from candidates who are first authors of an original peer-reviewed work, published or accepted for publication before the deadline of this call, or have an equivalent scientific achievement, may be accepted); the Program requires full-time participation.
A panel of academic reviewers will assess the submitted applications, according to the following criteria: curriculum and references, motivation, work program, and hosting conditions. The number of funded applications will depend upon their scope and quality, as well as on the availability of funds. The selection process is expected to take one month at most.

**Financial Support - Scholarship**

The candidates admitted to the Undergraduate Internship Program will receive an international bachelor-level mobility grant to cover their living expenses during the eight to twelve weeks of the stay period. For this purpose, a contract will be signed by the recipient of the mobility grant. At the end of the stay, a one-page report describing the developed activities must be submitted to the CMU Portugal Program. Additionally, the CMU Portugal Program expects to provide support for the plane trips between Portugal and Pittsburgh.

**Undergraduate Internship Members in Numbers**

The Undergraduate Internship Program has already supported 29 internships in eight different CMU departments until March 2017. Twelve more Internships, scheduled for 2017, have been already approved.

In this subsection, we present charts showing the evolution of the number of undergraduate internships that have participated in the program since its beginning, and the total number of undergraduate internships by the end of 2017. These charts present figures by Portuguese higher education institution and by host organizational unit at Carnegie Mellon.
Distribution of undergraduate internships by Portuguese higher education institution

![Diagram showing the distribution of undergraduate internships by Portuguese higher education institution.](image)

**Figure 2** – Evolution and number of undergraduate internships for each Portuguese higher education institution.

Distribution of undergraduate internships by CMU host organizational unit

![Diagram showing the distribution of undergraduate internships by CMU host organizational unit.](image)

**Figure 3** – Evolution of the number of undergraduate internships in each host organizational unit at Carnegie Mellon.

**Figure 4** – Number of undergraduate internships in each host organizational unit at Carnegie Mellon.

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Carnegie Mellon

Portugal
List of Undergraduate Internships Members

2017 Undergraduate Internships Members

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Ana Pereira
Institution: Instituto Superior Técnico (IST)
Semester: Fall 2017
Host at CMU: Mouni Kolay (Computer Science)
Sponsor in Portugal: Rodrigo Vasconcelos (IST)
Main goals of the UIP: To develop a tool that allows users to interact with a virtual robot using natural language commands.
Research interests: Artificial Intelligence, Natural Language Understanding

António Lopes
Institution: Instituto Superior Técnico (IST)
Semester: Summer 2017
Host at CMU: Guanying Zhao (Robotics Institute)
Sponsor in Portugal: David Maruia
Main goals of the UIP: To develop a system that allows users to interact with a virtual robot using natural language commands.
Research interests: Robotics, Human-Robot Interaction

Catarina Lima
Institution: Instituto Superior Técnico (IST)
Semester: Summer 2017
Host at CMU: Guanying Zhao (Robotics Institute)
Sponsor in Portugal: João Pinheiro (IST)
Main goals of the UIP: To study the reaction of a virtual robot to different commands.
Research interests: Robotics, Human-Robot Interaction

João Carvalho
Institution: Instituto Superior Técnico (IST)
Semester: Fall 2017
Host at CMU: Mouni Kolay (Computer Science)
Sponsor in Portugal: Rodrigo Vasconcelos (IST)
Main goals of the UIP: To develop a system that allows users to interact with a virtual robot using natural language commands.
Research interests: Artificial Intelligence, Natural Language Understanding

Manuela Silva
Institution: Faculdade de Ciências da Universidade do Porto (FCUP)
Semester: Summer 2017
Host at CMU: David Eberly (Computer Science)
Sponsor in Portugal: Luís Antunes (FCUP)
Main goals of the UIP: To develop a system that allows users to interact with a virtual robot using natural language commands.
Research interests: Robotics, Human-Robot Interaction

Pedro Costa
Institution: Faculdade de Engenharia da Universidade do Porto (FEUP)
Semester: Summer 2017
Host at CMU: Gray Fedder (ECE)
Sponsor in Portugal: José António da Silva (FEUP)
Main goals of the UIP: To develop a system that allows users to interact with a virtual robot using natural language commands.
Research interests: Robotics, Human-Robot Interaction

2016 Undergraduate Internships Members

Adriano Marques
Institution: Faculdade de Engenharia da Universidade do Porto (FEUP)
Semester: Summer 2016
Host at CMU: Gray Fedder (ECE)
Sponsor in Portugal: José António da Silva (FEUP)
Main goals of the UIP: To develop a system that allows users to interact with a virtual robot using natural language commands.
Research interests: Robotics, Human-Robot Interaction

Filipa Soares
Institution: Instituto Superior Técnico (IST)
Semester: Fall 2016
Host at CMU: Mouni Kolay (Computer Science)
Sponsor in Portugal: João Pinheiro (IST)
Main goals of the UIP: To develop a system that allows users to interact with a virtual robot using natural language commands.
Research interests: Robotics, Human-Robot Interaction

André Santiago
Institution: Faculdade de Ciências e Tecnologia da Universidade de Coimbra (FCTUC)
Semester: Fall 2016
Host at CMU: Zvi Bar-Joseph (Computational Biology Department)
Sponsor in Portugal: João Pinheiro (IST)
Main goals of the UIP: To develop a system that allows users to interact with a virtual robot using natural language commands.
Research interests: Robotics, Human-Robot Interaction

Carnegie Mellon Portugal

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Carolina Loureiro
Institution: Instituto Superior Técnico (IST)
Semester: Spring 2016
Host at CMU: Siddhartha Srinivasa (RI)
Sponsor in Portugal: Rodrigo Vieira (IST)
Research interests: Manipulation, Motion planning, Algorithms, and Robotics
Catarina Pinto
Institution: Faculdade de Engenharia da Universidade do Porto (FEUP)
Semester: Spring 2016
Host at CMU: Siddhartha Srinivasa (RI)
Sponsor in Portugal: Abelino Paulo Alves (INESC TEC/ FEUP)
Main goals of the UIP: Develop my MSc thesis on Perception and Computer Vision, working with the research group of the Personal Robotics Lab. The goal is to conduct a robot on a field, guiding and transporting specific objects.
Research interests: Computer Vision, Robotics, Perception, and Manipulation

João Caetano Avelino
Institution: Instituto Superior Técnico (IST)
Semester: Fall 2016
Host at CMU: Atan Suwajanakorn and Dan Sperling (ECE)
Sponsor in Portugal: Alexandre Remond (IST)
Main goals of the UIP: To make use of pedestrian detection and tracking technology in Virtual Coach systems, to develop a dialogue system to give instructions to people to position correctly with respect to the system, and to make use of evaluation and training of virtual documentation.
Research interests: Computer Vision, Machine Learning, and Robotics
João Caramulo
Institution: Instituto Superior Técnico (IST)
Semester: Summer 2016
Host at CMU: Travis D. Ross (ISR)
Sponsor in Portugal: Jorge R. da Silva (IST)
Main goals of the UIP: To identify a data set of patches to identify data purposes, to design a cross-referencing tool to collect additional data purpose labels from crowd workers, to identify NLP features to train a classifier to perform purpose identification, and to write a technical report describing the results of the classifier evaluation.
Research interests: Requirements Engineering, Natural Language Processing, Data Analysis, and Integration, and Business Process Management

Miguel Ramos
Institution: Instituto Superior Técnico (IST)
Semester: Fall 2016
Host at CMU: Alex W. Black (Language Technologies Institute)
Sponsor in Portugal: Isabel Trancoso (IST)
Main goals of the UIP: Employing the use of deep neural networks and attention mechanisms in the task of cross-lingual voice conversion.
Research interests: Artificial Intelligence, Machine Learning, Audio, and Speech Processing
Rui Rocha
Institution: Universidade de Coimbra
Semester: Summer 2016
Host at CMU: Carmel Majidi (Mechanical Engineering)
Sponsor in Portugal: Manoel Teixeira (ISR - UCoimbra)
Main goals of the UIP: To evaluate characteristics of soft and stretchable sensors based on different fabrication methods.
Research interests: Soft Sensors, Conductive Materials, and Stretchable Polyurethane

Tiago Fernandes
Institution: Faculdade de Engenharia da Universidade do Porto (FEUP)
Semester: Spring 2016
Host at CMU: Esteban Eceiza (ECE, CMU-SV)
Sponsor in Portugal: Rui Maia (FEUP)
Main goals of the UIP: To study and understand the state-of-the art of Continuous Integration, and to start the development of Codinova - a new research vision based on a flexible, scalable, and extensible ecosystem of soft agents that support software engineers in their endeavors to improve code quality and team productivity.
Research interests: Software Engineering, Distributed Systems, Agile Software Development, and Information Retrieval

2015 Undergraduate Internships Members

André Ferreira
Institution: Universidade da Madeira (UM)
Semester: Summer 2015
Host at CMU: Dan Sperling and Atan Suwajanakorn (CS)
Sponsor in Portugal: Nuno Justino Nunes (UMT, UM)
Main goals of the UIP: My research proposes to explore the use of physiological signatures of tiredness, and awareness in adaptive habilitation systems implemented on gaze input. I am part of the NeuroRehabLab research team, who is involved in the ARAA - Augmented Human Assistance project, funded by the CMU Portugal Program.
Research interests: Sensors and Brain Computer Interfaces (BCI) for stroke rehabilitation.

Artur Balaniut
Institution: Instituto Superior Técnico (IST)
Semester: Spring 2015
Host at CMU: Anthony Rowe (ECE)
Sponsor in Portugal: Ricardo Luís Pires (IST)
Main goals of the UIP: To increase knowledge in embedded systems, wireless mesh networks, building automation systems and to further develop the product created during the MSc thesis by leveraging the expertise gained in the D▉eneral Mote project at CMU.
Research interests: Wireless Mesh Networks, Sensor Networks, Building Automation Systems, and Distributed Systems

Bernardo Cardoso
Institution: Faculdade de Engenharia da Universidade do Porto (FEUP)
Semester: Spring 2015
Host at CMU: Xian Liu (ECE)
Sponsor in Portugal: Vítor G. Teixeira, FEUP/INESC TEC
Main goals of the UIP: To get acquainted with best practices in research, to participate in research activities within the project “Intradose architecture and design for mine recognition” to be in contact with other forms of organization, teaching/learning at a top American university.

Catarina Soeiro Ferreira
Institution: Faculdade de Ciências da Universidade do Porto (FCUP)
Semester: Summer 2015
Host at CMU: David Piletor (CI) and João Martins (Dual degree Ph.D. student)
Sponsor in Portugal: Ana Paula Ceroni Tomiso (FCUP)
Main goals of the UIP: To study a single-robotic leg in Cytos-Physical Systems and to demonstrate its capabilities in some case studies with important safety requirements, which are to model these real-world systems and to prove that these models are safe.
Research interests: Logic, Protocol Systems, and Software Verification

César Capistrano
Institution: Faculdade de Engenharia da Universidade do Porto (FEUP)
Semester: Spring 2015
Host at CMU: Steven Batacan (ECE)
Sponsor in Portugal: Vítor G. Teixeira, FEUP/INESC TEC
Main goals of the UIP: To collaborate in the development of a ULC (statistical analysis of hip-based test and diagnostic methodology) for measuring that taking and resting is minimized over the lifetime of the system.

Francisco Teixeira
Institution: Faculdade de Engenharia da Universidade do Porto (FEUP)
Semester: Spring 2015
Host at CMU: Steven Batacan (ECE)
Sponsor in Portugal: Vítor G. Teixeira, FEUP/INESC TEC
Main goals of the UIP: Get acquainted with good practices in research, to deepen the knowledge of the field of design and integrated circuits, and to be in contact with other forms of organization, teaching/learning at a top American University.

Carnegie Mellon University
Portugal
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution/School/Department</th>
<th>Year</th>
<th>Host</th>
<th>Sponsor/Contact</th>
<th>Position</th>
<th>Main Goals with the UIP</th>
<th>Research Interests</th>
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<tbody>
<tr>
<td>Guilherme Rito</td>
<td>Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa (PCT-UNL)</td>
<td>Fall 2013</td>
<td>Host at CMU: Usman A. Ani (CS)</td>
<td>Sponsors in Portugal: Miguel Cardoso (CI), FCT-UNL</td>
<td>Main goals with the UIP: To improve certain mechanical mechanisms using a simulation model.</td>
<td>Research Interests: Modeling and simulation of mechanical systems.</td>
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<tr>
<td>João Figueira da Silva</td>
<td>Faculdade de Engenharia da Universidade do Porto (FEUP)</td>
<td>Fall 2015</td>
<td>Host at CMU: Fernando de la Torre (IEE)</td>
<td>Sponsors in Portugal: João Carlos (FEUP)</td>
<td>Main goals with the UIP: To analyze and improve the performance of a new low-power wireless sensor network.</td>
<td>Research Interests: Wireless sensor network design and evaluation.</td>
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<tr>
<td>José Fonseca</td>
<td>Faculdade de Engenharia da Universidade do Porto (FEUP)</td>
<td>Spring 2015</td>
<td>Host at CMU: Fernando de la Torre (IEE)</td>
<td>Sponsors in Portugal: José Machado (FEUP)</td>
<td>Main goals with the UIP: To develop a new algorithm for data compression.</td>
<td>Research Interests: Data compression and wireless communication technologies.</td>
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<tr>
<td>Maria Beatriz Ferreira</td>
<td>Instituto Superior Técnico (IST)</td>
<td>Spring 2015</td>
<td>Host at CMU: David Gauthier (ISR)</td>
<td>Sponsors in Portugal: José Machado (FEUP)</td>
<td>Main goals with the UIP: To develop a new algorithm for data compression.</td>
<td>Research Interests: Image processing and compression.</td>
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<tr>
<td>Pedro Neves</td>
<td>Instituto Superior de Engenharia de Coimbra (ISEC)</td>
<td>Fall 2015</td>
<td>Host at CMU: David Gauthier (ISR)</td>
<td>Sponsors in Portugal: José Machado (FEUP)</td>
<td>Main goals with the UIP: To develop a new algorithm for data compression.</td>
<td>Research Interests: Image processing and compression.</td>
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<td>Renato Negriatto</td>
<td>Instituto Superior Técnico (IST)</td>
<td>Spring 2015</td>
<td>Host at CMU: Noéh A. Smith (Language Technologies Institute)</td>
<td>Sponsors in Portugal: Miguel Cardoso (IST-ID)</td>
<td>Main goals with the UIP: To develop a new algorithm for data compression.</td>
<td>Research Interests: Machine Learning, Natural Language Processing, and Optimization.</td>
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<tr>
<td>Albert Linde</td>
<td>Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa (PCT-UNL)</td>
<td>Fall 2014</td>
<td>Host at CMU: Usman A. Ani (CS)</td>
<td>Sponsors in Portugal: Miguel Cardoso (CI), FCT-UNL</td>
<td>Main goals with the UIP: To develop a new algorithm for data compression.</td>
<td>Research Interests: Image processing and compression.</td>
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<td>Salvarol Azevedo</td>
<td>Instituto Superior Técnico (IST)</td>
<td>Fall 2015</td>
<td>Host at CMU: Pedro Faria (EPF)</td>
<td>Sponsors in Portugal: Pedro Oliveira (CLSE)</td>
<td>Main goals with the UIP: To develop a new algorithm for data compression.</td>
<td>Research Interests: Image processing and compression.</td>
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<tr>
<td>Tiago Cardoso</td>
<td>Faculdade de Engenharia da Universidade do Porto (FEUP)</td>
<td>Fall 2014</td>
<td>Host at CMU: David Gauthier (ISR)</td>
<td>Sponsors in Portugal: Nuno Moutinho (FEUP)</td>
<td>Main goals with the UIP: To develop a new algorithm for data compression.</td>
<td>Research Interests: Image processing and compression.</td>
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