

## CONVOCATORIA DE PRÁCTICAS INTERNACIONALES / CALL FOR INTERNATIONAL INTERNSHIP

### CONVENIO CEBE 2021 / CEBE 2021 AGREEMENT

#### I. HOST APPLICANT INFORMATION

*This person is responsible for signing the Learning Agreement, amending it if needed, supervising the trainee during the traineeship and signing the Traineeship Certificate.*

|                                 |  |            |  |      |  |
|---------------------------------|--|------------|--|------|--|
| Name                            | José Oramas Mogrovejo  |            |  |      |  |
| Position                        | Assistant professor at the University of Antwerp   |            |  |      |  |
| Contact (e-mail, phone)         |  |            |  |      |  |
| Department/Faculty. Institution | IDLab research group – Department of Computer Science – Faculty of Science – University of Antwerp / imec research institute   |            |  |      |  |
| Organization Type (see annex I) | EPLUS-EDU-HEI (UAntwerp)<br>EPLUS-RES (imec)   |            |  |      |  |
| Public body                     | <input type="checkbox"/> YES<br><input checked="" type="checkbox"/> NO   | Non-Profit | <input checked="" type="checkbox"/> YES<br><input type="checkbox"/> NO | Size | <input type="checkbox"/> < 250 employees<br><input checked="" type="checkbox"/> >250 employees |
| Address; website                | Sint-Pietersvliet 7, 2000 Antwerpen, Belgium.<br><a href="https://www.uantwerpen.be/en/research-groups/idlab/">https://www.uantwerpen.be/en/research-groups/idlab/</a> |            |  |      |  |

#### II. PROJECT DESCRIPTION

*Description of the project that will be done by the student-trainee at the host institution.*

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|---|
| <p><b>Wished period for mobility <sup>(1)</sup></b>: from (day/month/year) 1/9/2021 to (day/month/year) 1/12/2021</p>   |
| <p><b>1. Project title: Algorithms for Intelligible Deep Models</b></p>   |
| <p><b>2. Number of working hours per week: 35 expected</b></p>  |
| <p><b>3. Detailed programme of the traineeship <sup>(2)</sup> (max. 300 words):</b></p> <p>Our research group has significant experience conducting research on the design of algorithms to provide intelligibility characteristics to models based on deep neural networks. More specifically, we pursue the goals of figuring out the information encoded internally in a Deep model (model interpretation) and justifying the predictions it makes (model explanation). In this internship, we will go deeper in topics related to these goals. Most of the research will be focused on visual data, videos and images. However, there is the possibility to cover other data modalities, e.g. text.</p> |

**4. Knowledge, skills and competences to be acquired by the end of the traineeship (expected Learning Outcomes)(max 100 words):**

The trainee will develop advanced insights in the concepts of machine learning and computer vision. Moreover, you will gain experience on conducting fundamental research. Depending on the depth of the obtained results and the evaluation protocols followed to reach them, results of the project will be considered for potential submissions for publications at scientific conferences.

**5. Monitoring plan (max 100 words):**

At IDLab, we have strong experience in supervising international students. Each trainee is assigned one PhD student or postdoc for daily supervision, as a direct contact point. At the start, during an onboarding meeting, mutual expectations are set and practical arrangements for reporting are agreed. Typically, we start with weekly meetings. Depending on the topic, the trainee is very welcome to sit together more often when required. Mid-way, an internal presentation to a bigger group allows for broader feedback. At the end of the internship another broad presentation allows for knowledge consolidation and conclusions.

**6. Evaluation plan (max 100 words):**

Typically, in our research group we target a feasibility study as the proposed internship format. To evaluate this, we take into consideration the efforts of the student and not the result itself. We evaluate their effort by looking at the individual contributions, the creativity and the motivation of the student, based on the intermediate contacts with the supervisor. Moreover, we also evaluate the outcomes of the intermediate and final presentation, as an additional input. This enables evaluation of the full internship process.

**7.a. Impacts and benefits of the traineeship to the host applicant (max 100 words):**

The topics in all of our internships are closely aligned to our ongoing research lines and efforts. We truly believe in involving our trainees fully in our research, where they can experience the research process fully and continuously.

In this particular case, we will test very specific research ideas which will further complement and benefit existing research lines at IDLab.

**7.b. Impacts and benefits of the traineeship to the trainee (max 100 words):**

The IDLab research group is the biggest at the university of Antwerp, with a strong focus on validation, industrial collaboration and interdisciplinary topics. By participating fully in our research, the trainee will be able to get acquainted with the research activities in a big and leading lab. Finally, because our research and innovation are strongly interdisciplinary,

collaboration skills beyond collaboration with computer science peers is stimulated.

### III. STUDENT PROFILE AND REQUIREMENTS

This section refers to specific knowledge or expertise that the student/trainee must have in order to proceed successfully with the proposed project.

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|---|---|---|
| <b>8. Research Area (see annex II):</b> Computer and Mathematics Engineering  |   |   |
| <b>9. Is the host applicant / scientific supervisor willing to evaluate the project performance so that the student could validate the traineeship as ECTS credits (3):</b>   | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |   |
| <b>10. Student required expertise and technical knowledge:</b><br><br>Strong knowledge of basic artificial intelligence concepts (machine learning, deep neural image processing and/or computer vision)<br>Strong python experience<br>Interest in obtaining insights and understanding fundamental problems   |   |   |
| <b>11. Level of studies:</b> Master student   |   |   |
| <b>12. Language:</b> Our team is very international, strong knowledge of English (B2 or higher) is required. A lot of our colleagues come from Spain or Latin-America, so Spanish is spoken frequently.   |   |   |
| <b>(4) The level of language competence in _____ (indicate here the main language of work that the trainee already has or agrees to acquire by the start of the mobility period is: A1 <input type="checkbox"/> A2 <input type="checkbox"/> B1 <input type="checkbox"/> B2X C1 <input type="checkbox"/> C2 <input type="checkbox"/> Native speaker <input type="checkbox"/></b> |   |   |
| <b>13. Does the host institution require any other language besides the language of work?</b>   | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | <b>Which one?:</b>  |
| <b>14. Does the host institution require any further paperwork done or any other relevant information to host a student/trainee (under the condition of this programme)</b>   | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | <b>14. A</b><br><br>If YES, please detail: We have university-level agreements for incoming students. Those |

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|  |  | <i>are straightforward and we will help you with this.</i> |
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#### IV. Consent to publish Traineeship Data.

I agree that my name, title of the project, its duration and the name of the Receiving Institution / Enterprise can be published on the CEBE website as awarded supervisor of the Traineeship Programme 2020.

(1) a) Related to UAM: A minimum of 2 months and up to 4 months (only the first 3 are funded). The planned period in this call should be between 1st of June 2020 and 30th of December of 2021. After the matching of host candidates with students and by mutual agreement between the two parties, the exact dates can be changed and the total stay could be prolonged up to 6 months; b) Related to UCLM: A minimum of 2 months and up to 4 months (all 4 months are funded). The estimated start date of the internship is 1st July and can be extended up to a total of 12 months.

(2) Consider that this must be read by the selection committee but also by the students, who will apply to the project.

(3) If NO, only students who will not validate the project as ECTS credits will be assigned for matching with this applicant. The application to validate the project as ECTS credits will come exclusively from the student.

(4) Level of language competence: a description of the European Language Levels (CEFR) is available at: <https://europass.cedefop.europa.eu/en/resources/european-language-levels-cefr>

#### Annex I: List of Organisation Types

| CODE                | Organisation type   |
|---------------------|---|
| EPLUS-EDU-HEI       | Higher education institution (tertiary level)                               |
| EPLUS-EDU-GEN-PRE   | School/Institute/Educational centre – General education (pre-primary level) |
| EPLUS-EDU-GEN-PRI   | School/Institute/Educational centre – General education (primary level)     |
| EPLUS-EDU-GEN-SEC   | School/Institute/Educational centre – General education (secondary level)   |
| EPLUS-EDU-VOC-SEC   | School/Institute/Educational centre – Vocational Training (secondary level) |
| EPLUS-EDU-VOC-TER   | School/Institute/Educational centre – Vocational Training (tertiary level)  |
| EPLUS-EDU-ADULT     | School/Institute/Educational centre – Adult education                       |
| EPLUS-BODY-PUB-NAT  | National Public body  |
| EPLUS-BODY-PUB-REG  | Regional Public body  |
| EPLUS-BODY-PUB-LOC  | Local Public body   |
| EPLUS-ENT-SME       | Small and medium sized enterprise   |
| EPLUS-ENT-LARGE     | Large enterprise  |
| EPLUS-NGO           | Non-governmental organisation   |
| EPLUS-FOUND         | Foundation  |
| EPLUS-SOCIAL        | Social partner or other representative of working life                      |
| EPLUS-RES           | Research Institute/Centre   |
| EPLUS-YOUTH-COUNCIL | National Youth Council  |

|                       |  |
|-----------------------|--|
| EPLUS-ENGO            | European NGO                                       |
| EPLUS-NET-EU          | EU-wide network                                    |
| EPLUS-YOUTH-GROUP     | Group of young people active in youth work         |
| EPLUS-EURO-GROUP-COOP | European grouping of territorial cooperation       |
| EPLUS-BODY-ACCRED     | Accreditation, certification or qualification body |
| EPLUS-BODY-CONS       | Counselling body                                   |
| EPLUS-INTER           | International organisation under public law        |
| EPLUS-SPORT-PARTIAL   | Organisation representing the sport sector         |
| EPLUS-SPORT-FED       | Sport federation                                   |
| EPLUS-SPORT-LEAGUE    | Sport league                                       |
| EPLUS-SPORT-CLUB      | Sport club   |

## Annex II: Research Areas

| Area of knowledge                                | University   |
|--|--|
| Agricultural and agri-food engineering           | Universidad Castilla La Mancha                                 |
| Aerospace engineering                            | Universidad Castilla La Mancha                                 |
| Biochemistry                                     | Universidad Autónoma de Madrid, Universidad Castilla La Mancha |
| Biology  | Universidad Autónoma de Madrid                                 |
| Biomedical engineering                           | Universidad Castilla La Mancha                                 |
| Chemical Engineering                             | Universidad Autónoma de Madrid, Universidad Castilla La Mancha |
| Chemistry  | Universidad Autónoma de Madrid, Universidad Castilla La Mancha |
| Computer Engineering                             | Universidad Autónoma de Madrid, Universidad Castilla La Mancha |
| Computer Engineering and Mathematics             | Universidad Autónoma de Madrid                                 |
| Electrical Engineering                           | Universidad Castilla La Mancha                                 |
| Environmental Sciences                           | Universidad Autónoma de Madrid, Universidad Castilla La Mancha |
| Food Science and Technology                      | Universidad Autónoma de Madrid, Universidad Castilla La Mancha |
| Forestry and environmental engineering           | Universidad Castilla La Mancha                                 |
| Human nutrition and dietetics                    | Universidad Autónoma de Madrid                                 |
| Industrial and automatic electronics engineering | Universidad Castilla La Mancha                                 |
| Mathematics                                      | Universidad Autónoma de Madrid                                 |
| Mechanical engineering                           | Universidad Castilla La Mancha                                 |
| Medicine   | Universidad Castilla La Mancha                                 |
| Nursing  | Universidad Castilla La Mancha                                 |
| Pharmacy   | Universidad Castilla La Mancha                                 |
| Physics  | Universidad Autónoma de Madrid                                 |
| Physiotherapy                                    | Universidad Castilla La Mancha                                 |