PHILHUMANS

Personal Health Interfaces Leveraging Human-Machine Natural interactions

an interdisciplinary training program for young researchers

European Industrial Doctorate Fellowship

Call for Application

DEADLINE: 20 of February 2021 – 17.00 CET

BACKGROUND OF THE PHILHUMANS RESEARCH PROJECT

Eight industrial doctorate research fellowships are offered within the framework of **PHILHUMANS: Personal Health Interfaces Leveraging Human-MAchine Natural interactionS,** a project funded by the European Union's Horizon 2020 research & innovation programme under the Marie Skłodowska-Curie – ITN, Industrial Doctorate (GA n. 812882).

PHILHUMANS is an international, inter-sectoral, interdisciplinary project providing Marie Skłodowska-Curie PhD Fellowships to 8 Early Stage Researchers (ESRs), with the potential to become the leaders of tomorrow innovative Artificial Intelligence (AI) and establish user interaction with their personal health devices.

More specifically, the PHILHUMANS research program will investigate novel AI methods for human-machine interaction in the personal health domain through a well-designed and well-structured research training programme. It will require the creation of a blend of interdisciplinary understanding of personal digital assistant, cognitive computing, (deep) ML, (multilingual) NLP, advanced Computer Vision, Big Data, within the inter-sectoral academic, medical and industrial environment of the beneficiaries and partners.

The PhD students (also indicated as Early Stage Researchers-ESR) will collaborate within the PHILHUMANS ITN research program.

TRAINING AND MOBILITY

The project will offer an ambitious and innovative doctoral program for eight new PhD students, combining academic excellence with strong international business attitude, inspired to innovation-oriented mind-set.

PhD students will develop a completely new profile, based on a strong interdisciplinary attitude, integrating technical skills, socio-economic sciences' perspectives, creativity and entrepreneurial allure.

Mobility plays a central role in the programme: PhD students will follow a secondment scheme training them in academic institutions as well as companies, moving from analytics, business, security and privacy as well as between academic research and company based development projects (all PhD students are required to spend at least 50% of their time at non-academic institution, mainly at Philips' premises). Mobility periods are foreseen both in European countries. Indicative planned secondments for each PhD position are illustrated in the attachment.

The rotation of PhD students among the partners will bring PhD students to learn complementary techniques and methods, which will broaden their perspectives and capabilities, and enhance their career development.

DESCRIPTION

We are searching for 1 Early Stage Researcher for a 20 months contract within a project funded by the European Union's Horizon 2020 research & innovation programme under the Marie Skłodowska-Curie – ITN, Industrial Doctorate program.

The project is titled PHILHUMANS: Personal Health Interfaces Leveraging Human-MAchine Natural interactionS, and there is 1 Early Stage Researcher Position open in the area of Computer Vision and Machine Learning to develop innovative algorithms for Human-Aware Robot Navigation within the ESR6 program (https://www.philhumans.eu/esrs/esr-6/). Habitat framework (https://aihabitat.org/) will be used for the simulation with the challenge to transfer the navigation abilities in real scenarios.

Highly competitive and attractive salary of about 39.000€ per year (about 2900€ NEAT per month) is offered, plus mobility and family allowances as applicable.

The ESR candidates should have a Master degree in Computer Science, Information Engineering or equivalent. Traveling will be part of the program, substantial secondments to partner locations are planned. Training and attending to top international conferences is part of the program. Candidates are required to meet the Marie Sklodowska-Curie Early Stage Researcher eligibility criteria. In particular, at the time of the appointment, candidates must have had less than four years full-time equivalent research experience and must not have already obtained a PhD. Additionally, at the time of recruitment, the ESR must not have resided, or carried out his/her activity in the country of the hiring institution for more than 12 months in the 3 years prior to recruitment date.

ESR will be also enrolled for a PhD position in Computer Science at the University of Catania (with possibility of economic support after the 20 months of PHILHUMAN project, after evaluation of the obtained results, in order to complete the PhD studies). Research will be conducted under the supervision of Prof. Giovanni Maria Farinella (University of Catania) and Dr. Aki Harma (Philips Research). The ESR will spend half of the period at the University of Catania and the remaining to Philips Research in Eindhoven (with possibility of virtual presence during COVID period).

Application must be submitted within 20 Feb 2021 to the primary Supervisor prof. Giovanni Maria Farinella at gfarinella@dmi.unict.it (see Sections "ELIGIBILITY CRITERIA" and "HOW TO APPLY" below)

Hiring institutions

University of Catania (Italy)

PhD Enrollment
The ESR will be enrolled at the Doctoral School of the University of Catania.

DESCRIPTION OF HIRING INSTITUTION

University of Catania - The Department of Mathematics and Computer Science (DMI) of the University of Catania (UNICT) has more than 75 researchers among Professors and Assistant Professors. The Department is promoting and coordinating researchers in the areas of Pure and Applied Mathematics, and Computer Science. It offers PhD programs both in Mathematics and Computer Science. The laboratory which will be involved in PhilHumans project is the Image Processing Laboratory (IPLAB – http://iplab.dmi.unict.it). IPLAB is part of the Department of Mathematics and Computer Science and leading the areas of Image Processing, Computer Vision, Machine Learning and Computer Graphics. The laboratory was established in 2005 and currently employs 21 researchers: 2 Full Professors, 1 Associate Professor, 1 Tenure Track Assistant Professor, 3 PostDoc, 14 Ph.D. Students. The research group has strong collaboration with industries leader in the field of expertise of the Image Processing Laboratory. The group has published more than 300 papers on topics related to the mentioned disciplines and 25 Patents. IPLAB has been involved in different international projects for the development of advanced algorithms with applications in different domains: embedded, mobile and wearable devices, first person (egocentric) vision (http://iplab.dmi.unict.it/fpv/), assistive and quality of life, forensics, medical, cultural heritage. It has established a number of international relationship with academic/industrial partners for research purposes. The IPLAB Research Group is one of the main organizers of the International Computer Vision Summer School (http://www.dmi.unict.it/icvss) and of the Medical Imaging Summer School (http://www.dmi.unict.it/miss).

Duration of the employment

Early Stage Researcher will be employed for 20 months within a project funded by the European Union's Horizon 2020 research & innovation programme under the Marie Skłodowska-Curie – ITN, Industrial Doctorate program at the University of Catania. ESR will be also enrolled for a PhD position in Computer Science at the University of Catania (with possibility of economic support after the 20 months of PHILHUMAN project, after evaluation of the obtained results, in order to complete the PhD studies).

Expected start date

1 of April 2021

Income

Stage	Gross Salary (without family)	Gross Salary (with family)
ESR	€39,000 p.a.	€44,000 p.a.

Note: figures for indication only, country correction factors apply as per MSCA rules

Benefits

600€ Mobility Allowance per month (7200€ / year)
500€ Family Allowance per month (6000€ / year) - When applicable according to the Marie Skłodowska-Curie.

Note: this is a gross EU contribution to the salary cost of the researcher. The net salary will result from deducting all compulsory (employer/employee) national social security contributions as well as direct taxes

CAREER DEVELOPMENT PROSPECTS

ESRs will gain highly valuable research skills, linked to disruptive and innovative technology for AI-assisted human-machines interfaces, employing language technology, cognitive computing, computer vision, and

machine learning (ML). Fellows will be also provided with transversal skills (IPRs, grant application, etc.) and with the capacity to conduct their specific research according to an **interdisciplinary approach and to create innovation**. This combination of skills will increase their attractiveness for both academic and business sector. Moreover, exposure to the Chinese context and enhanced capacity to create business/research relationships will make all ESRs.

NON-DISCRIMINATION

Philips has adopted family friendly policies as part of its equal opportunities policies for male and female employees. The ESRs will be located at the Philips premises at the High Tech Campus in Eindhoven, with the following facilities at hand:
- Dedicated breast feeding rooms in every building
- On-site day care facilities for young children
- An international school, within 5 kilometers of the High Tech Campus

ELIGIBILITY CRITERIA

Degree: Master degree or equivalent providing access to PhD programs. See attachment for required degree for each position.

Language: English proficiency must be attested either through a previous English language diploma, or an internationally recognized proficiency test (at least C1 level of the Common European Framework of Reference for Languages i.e. IELTS, IBT, TOEFL or Cambridge).

Career: When starting the contract (April 2021), selected researcher should be within the first four years of their careers. This means being both within a four years window following their most recent graduation and not having been awarded a prior doctoral degree so far.

Mobility: At the time of recruitment, the researcher must not have resided, or carried out his/her activity in the country of the hiring institution for more than 12 months in the 3 years prior to recruitment date.

Application: Complete and timely submission exclusively via email to gfarinella@dmi.unict.it. Documents submitted must be in English. If supporting documents (e.g. letters of academic references and scan of degree qualification) are not in English, they must be submitted together with a certified translation in English).

ADDITIONAL ESSENTIAL REQUIREMENTS:
- Master degree in Computer Science, Information Engineering (or equivalent). A degree with distinction (cum laude) is an advantage;
- Prior knowledge in Computer Vision, Machine Learning and Deep Learning is an advantage;
- Prior publications at international conferences or journals are desirable;
- Ability to program in Python is an advantage;
- Communication skill and team play are desirable.

HOW TO APPLY

Application must be submitted within 20 Feb 2021 to the Primary Supervisor prof. Giovanni Maria Farinella via email at gfarinella@dmi.unict.it. Applications must be sent exclusively in English.

Candidates will be requested to provide the following information:

1. a complete CV in Europass Format in English that must highlight activities and place where the activities have been carried out in order to give evidence of fulfilling the mobility eligibility criterion (see above). Use the template available at
   https://europass.cedefop.europa.eu/it/documents/curriculum-vitae/templates-instructions
2. a complete academic CV in English with references to past research and training experiences;
3. a motivation letter, in English, highlighting the consistency between the candidate 's profile and the chosen ESR position for which they are applying;
4. at least 2 references (could be also a reference letter which should then be in English or in certified translation)
5. scan of the degree qualification, with certified translation in English (if the degree qualification is not in English).
6. scanned copy of valid identification document (identity card or passport)
7. Declaration of Honour according to the template attached to this call.
8. (OPTIONAL) any further and relevant supporting documents (e.g. research publications).

INTENDED TIMING OF SELECTION PHASE

- **By 20 February 2021** Candidates must apply by submitting required documents
- **By 1 March 2021** Shortlisted candidates will be invited to submit to a interview (also via videoconference) with their supervisory team.
- **By 10 March 2021** Shortlisted candidates will be informed about final decision.
- **By 20 March 2021** Selected candidates will have to confirm in writing their decision to accept the offered position, otherwise they will lose the position and the following candidate in the ranking list will be recruited.
- **Within March 2021** Selected candidates will be recruited by hiring institutions.
- **Within April 2019** employment contracts will start**.**

SELECTION CRITERIA

All eligible applications will be assessed by a Selection panel according to the following criteria:

Selection criteria for the admission to the shortlist	Score
Qualifications and previous experience:	**0-50,0**
A. Master degree in the scientific field relevant to the project	

	Score
B. Other qualifications relevant to project/area, incl. letter of references	
C. Authorship of research outputs	
D. Previous experience of research in specific project area	
Total maximum score to be assigned	**50,0**

Candidates will be ranked for each foreseen position they have applied to. The threshold to be shortlisted is 35. If candidates have been awarded with the same score, priority will be based on scores for the sub criterion B "Other qualifications relevant to project/area, incl. letter of references".

For each position, up to 5 candidates awarded with the highest scores in the ranking list will be invited for an interview. The interview may be conducted also using a videoconference system.

During the interview the candidates will be evaluated according to the following criterion "Research abilities and personal skills".

Selection criteria of shortlisted candidates	Score
Research abilities and Personal skills:	**0-50,0**
1. Abilities to design, conduct and project manage original research in the subject area; 2. Ability in relevant research methods 3. Other relevant skills specific to project, including industry experience	
4. Excellent oral communication in English, including the ability to communicate complex subject orally 5. Good communication and interpersonal skills	
6. attitude of a natural team player and capability to work in an international research group 7. Enthusiasm, proactivity, creativity and commitment	
Total maximum score to be assigned	**50,0**

For each position the final ranking list will be obtained by adding the score obtained by the shortlisted candidate according to the criterion "Qualifications and previous experience" with the score obtained after the interview assessment according to the criterion B "Research abilities and personal skills". When scores are equal, priority will be based on scores for the sub criterion 3 "Other relevant skills specific to project, including industry experience".

The selection panel (supervisors) will assess the profile of each candidate according to the above mentioned criteria; In case a candidate will not reach a minimum score of 35 points out of 50 points on the criterion "Research abilities and personal skills", the selection panel has the right to not proceed with recruitment.

CONTACT: Enquiries can be sent to the Primary Supervisor prof. Giovanni Maria Farinella at gfarinella@dmi.unict.it

DECLARATION OF HONOUR
(to be filled out and signed by the applicant)

I, the undersigned [name and surname] born in [birth place] on [birth date]

hereby certify that
- I have not resided and not have carried out my main activity (work, studies, etc.) in the country of the hiring institution for more than 12 months in the 3 years immediately before the application date; or (in case this condition is not fulfilled at the application timing) this condition will be fulfilled at the date of recruitment (foreseen in April 2021);

- at the date of application I am an '**early stage researcher**', i.e. I am in the first four years of my research career (full-time equivalent research experience) measured from the date when the I obtained the degree entitling me to embark on a doctorate;

- I have not a doctoral degree;

Moreover, **I am aware that:**

- In case of selection, the above mentioned conditions must be fulfilled also at the date of recruitment, otherwise the recruitment will not occur (according to the EU Marie Skłodowska-Curie Actions Rules);

- In case of selection I will sign a further declaration of honour certifying the respect of the above mentioned conditions at the date of recruitment.

SIGNATURE

[Name/surname of the applicant]

Signature
_____

Done in _____ on _____