



TABLE 2 – PhD Programme in COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE

THE PHD PROGRAMME	
Administrative Location	University of Udine - Department of Mathematics, Computer Science and Physics (DMIF) – via delle Scienze 206, 33100 Udine, Italy (+39 0432 558400).
Partner institution	Fondazione Bruno Kessler – 77 via Santa Croce, 38122 Trento (TN), Italy
Location for Training, teaching and research activity	Teaching and other training activities will take place primarily at the location of the administrative programme or in other locations of the University of Udine. The research programme will be carried out, with reference to the scholarship (see art. 10 and 13 of the Call), and/or to the supervisor assigned, at one of these locations: administrative location, partner location, financial supporter location (if the financial supporter is an external institution).
Coordinator	eng. Alessandro Cimatti (cimatti@fbk.eu)
Programme duration	3 years
Research topics	<ul style="list-style-type: none"> - Acoustic scene analysis and Machine listening - Algorithms - AI in agrifood - Automatic planning and scheduling - Autonomous systems - Blockchain and Digital ledger technologies - Computational biology and Bioinformatics - Computational intelligence and Optimization - Computer vision - Crowdsourcing and Human-in-the-loop AI - Cyber-security - Data science and Big data analytics - Digital Humanities - 3D digitalization with AI - Distributed systems: models and applications - Formal methods and Automatic verification - Human-Computer interaction and Auditory-tactile interfaces - Knowledge representation and Automatic reasoning - Information retrieval - Internet of things: platforms and technologies - Logics in computer science - Machine learning and Deep learning - Medical informatics, Tele-medicine and e-Health - Methodologies, languages and techniques for problem solving in AI - Natural language processing - Condition monitoring, predictive maintenance and diagnosis - Social systems and Recommendation systems - Software engineering - Virtual reality and Serious games.
Research programmes	The research programmes, if not already defined by funding organizations or specific funding lines (see “Available places and assessment procedures”, art. 3 p. 5 of the Call), are determined by the Board of Professors within the doctoral programme Research topics.
Programme website	<p>https://www.uniud.it/en/research/do-research/doctorate-res/our-ph-d-programmes/area-physical-science-and-engineering/computer-science-and-artificial-intelligence/ph-d-programme/computer-science-and-artificial-intelligence?set_language=en</p> <p>https://dmif.uniud.it/en/teaching/phd-courses/iai/phd-course-in-computer-science-and-artificial-intelligence</p> <p>https://phd.fbk.eu/</p>
ADMISSION REQUIREMENTS	
Required degree	Italian Laurea (before DM 509/99) or Italian Laurea Specialistica/Magistrale (ex DM 509/1999 and Decree DM 270/04) or equivalent degree obtained abroad.
	Foreign degrees and diplomas: refer to art. 4 of the Call.
Knowledge of a foreign languages	English
SELECTION COMMITTEE	
Regular Members	Alessandro Cimatti – research center director – Bruno Kessler Foundation Vincenzo Della Mea – associate professor – University of Udine Dario Della Monica – associate professor – University of Udine



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	Niki Martinel – associate professor – University of Udine Vincenzo Riccio – associate professor – University of Udine
Substitute Members	Andrea Brunello – researcher – Università di Udine Carlo Drioli – associate professor – University of Udine Andrea Micheli – head of research unit– Bruno Kessler Foundation Andrea Orlandini – researcher – ISTC-CNR Fabio Remondino –head of research unit– Bruno Kessler Foundation Kevin Roitero – researcher – Università di Udine Federico Fontana – associate professor – University of Udine Luca Di Gaspero – associate professor – University of Udine Miculan Marino – full professor – University of Udine

ADMISSION

Selection process

Evaluation of qualifications and documents; oral exam.

The evaluation aims to assess applicants' attitude for scientific research and their basic preparation for the purposes of carrying out the doctoral programme.

The Selection Committee can attribute up to 100 points to each applicant: at most 30 points to the documents and at most 70 points to the oral exam.

Candidates who score **at least 18/30** points in the **evaluation of qualifications and documents** are admitted to the oral exam.

Candidates must attain a score of at least **49/70** points on the oral exam to be eligible.

For eligible candidates only, the score from the evaluation of documents is added to the score obtained in the oral exam.

Language that can be used for the exam

Italian or English

Assessment tests

The **written test** is about fundamental topics in computer science and artificial intelligence.

max. 20 points

The oral exam is held in person.

The oral exam will cover written test, titles, previous career and research proposal also aimed at understanding the applicant's knowledge about fundamental topics in computer science and artificial intelligence.

The oral exam will also assess whether the candidate is suitable to receive an externally funded scholarship, if they opted for this.

During the oral exam, candidates will also be required to read and understand a short scientific text in English.

max. 50 points

QUALIFICATIONS SUBJECT TO EVALUATION AND DOCUMENTS TO BE SUBMITTED

Maximum score

Mandatory documents (Art. 6 of the Call) UNDER PENALTY OF EXCLUSION

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DOCUMENTS REQUIRED FOR ADMISSION TO THE PHD PROGRAMME (Art. 4 of the Call for Applications):

Italian or EU candidates holding:

• **Degree already obtained:**

Self-certification issued in the form of a substitute declaration pursuant to Art. 46 and 47 of Presidential Decree no. 445 of 28.12.2000 and subsequent amendments, certifying the degree obtained and its related details (University, final grade, date of issue).

A template is available for download on the webpage dedicated to doctoral programmes.

• **Degree to be obtained:**

Self-certification issued in the form of a substitute declaration pursuant to Art. 46 and 47 of Presidential Decree no. 445 of 28.12.2000 and subsequent amendments, certifying enrollment in the degree programme and its related details (University, average exam marks, credits earned, expected date when degree will be issued).

A template is available for download on the webpage dedicated to doctoral programmes.

Non-EU candidates who are not legally residing in Italy and not authorized to stay in the country, in possession of:

• **Foreign degree already obtained:**

– Certificate attesting the possession of a second-level university degree (see Art. 4), issued by the institution that awarded it, specifying the type of degree, date of issue and final grade;

– Transcript of records of the Master's degree required for admission to the doctoral programme, including credits (if provided for in the university system of the country that issued the degree), grades and grading scale.



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	<p>If the university system is divided into first and second cycle, it is preferable that applicants also submit their Bachelor's degree certificate (first-cycle degree) and the transcript of records for this.</p> <p>• Foreign degree to be obtained: Certificate of enrollment in a degree programme that qualifies for admission to the doctoral programme (see Art. 4), indicating exams taken, related credits (if provided for in the university system of the country that issued the degree), grades, grading scale (academic transcript of records) and the expected date of degree award.</p> <p>If the university system is structured in first and second cycle, applicants are also preferably required to submit the Bachelor's degree certificate (first-cycle degree) and the transcript of records for this.</p> <p>Non-EU candidates who are legally residing in Italy, in possession of:</p> <p>• Degree already obtained in Italy: Self-certification issued in the form of a substitute declaration pursuant to Art. 46 and 47 of Presidential Decree no. 445 of 28.12.2000 and subsequent amendments, certifying the degree obtained and its related details (University, final grade, date of issue). <i>A template is available for download on the webpage dedicated to doctoral programmes.</i></p> <p>• Degree to be obtained in Italy: Self-certification issued in the form of a substitute declaration pursuant to Art. 46 and 47 of Presidential Decree no. 445 of 28.12.2000 and subsequent amendments, certifying enrollment in the degree programme and its related details (University, average exam marks, credits earned, expected date when degree will be issued). <i>A template is available for download on the webpage dedicated to doctoral programmes.</i></p> <p>Non-EU candidates legally residing in Italy, holding a degree obtained or to be obtained abroad, must follow the instructions for “non-EU candidates who are not legally residing in Italy and not authorized to stay in the country”.</p> <p>Non-EU candidates authorized to reside in Italy may use self-certifications where the use of such documents is permitted under international agreements between Italy and the candidate's country of origin.</p> <p>Non-EU candidates legally residing in Italy and non-EU citizens authorized to reside in Italy who intend to use self-certifications must attach their residence permit or authorization to stay in Italy to their application.</p>	
	<p>2 Copy of a valid personal identification document (for citizens of countries outside the European Union, a copy of the passport, specifically the pages showing the document number, photograph, personal details, place and date of issue, and expiration date).</p>	
	<p>3 CV and Academic Record which must provide detailed information on all previous and, where applicable, ongoing education and training, as well as work experience (education and training history, degree thesis, publications and articles, research areas of interest, work experience, internships, research periods abroad, awards and honors, personal, social, organizational, technical, and artistic skills and competencies). <i>A template is available for download on the webpage dedicated to doctoral programmes.</i></p>	17
	<p>4 Research proposal (approximately between 5,000 and 10,000 characters, in English) developed from among the research topics and research programmes listed in the document “Available places and assessment procedures” (art. 3, par. 5 of the Call) with specific reference to the expertise of the Board of Professors described at the following link: https://dmif.uniud.it/it/didattica/dottorato/iai/collegio-docenti <i>A template is available for download on the webpage dedicated to doctoral programmes.</i></p>	6
Optional documents (art. 5 of the Call)	<p>1 Master's Thesis or its abstract signed by their supervisor (approximately between 15,000 and 25,000 characters) in Italian or English associated to the degree granting access to the doctoral programme. The abstract can be submitted also by candidates who, on the date of the Call deadline, have not yet obtained this degree.</p>	3
	<p>2 Publications (upload max. 3 publications) relevant to the subjects of the doctoral programme.</p>	2
	<p>3 Reference letters (enter a max. of 2 reference contacts) from university professors, scientific researchers or other experts in the field (art. 6 of the Call).</p>	2



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For details on the procedures for submitting documents and qualifications, please refer to Articles 5 and 6 of the Call.

In particular, it should be noted that:

1. Documents and qualifications must be submitted in Italian or English, except for those for which this form specifically requires English. Documents and qualifications originally in another language must be accompanied by a translation into Italian or English carried out by the candidate who assumes full responsibility for its accuracy. Regarding the thesis specifically, the translation may be limited to an extended abstract.
2. Documents and qualifications, with the exception of reference letters, must be attached to the online application in digital format (.pdf).