FED-tWIN project - HENSOR (Heritage Enrichment using Spatial Object Relations)

The Royal Museums of Fine Arts of Belgium (Brussels) and Ghent University recruit 1 FTE:

10% assistant professor - 40% postdoctoral research assistant (UGent)
50% contractual SW2 Workleader (RMFAB)

FUNCTION DESCRIPTION

The enormous amount of knowledge contained in the (digital) collections of the Royal Museums of Fine Arts of Belgium (RMFAB) is currently underused. To solve this problem, the RMFAB and the University of Ghent (UGent) want to recruit a professor/research assistant who will focus on the development of an end-to-end solution for the (semi-) automatic analysis, annotation and publication of the collection data. The intended candidate should also provide a technical response to some of the challenges faced by museum staff in the digital age. In addition, the translation should be made to related research in the IDLab research group of Ghent University and related IDLab projects should be supported and monitored.

The needs/tasks of the various end users (RMFAB, heritage researchers, general public) must be fully understood, as well as the main methodologies to describe an artwork (and more specifically its composition). Attention should also be paid to opening relevant metadata in a standardised way, facilitating cross-collection linking, developing and executing federated queries and supporting collection queries in natural language.

CONTEXT

This function is part of the [FED-tWIN programme](#) of the Federal Science Policy, which aims to promote sustainable cooperation between the ten Federal Scientific Institutions and the 11 Belgian universities through the funding of joint research profiles. The research profile Prf-2020-023_HENSOR (Heritage Enrichment using Spatial Object Relations) is a joint initiative of the Royal Museums of Fine Arts of Belgium (RMFAB) and Ghent University. Lies Van de Cappelle (RMFAB) and Steven Verstockt (UGent) are the promoters.

The position to be filled in consists of a half-time position at the Royal Museums of Fine Arts and a half-time position at Ghent University. The candidate must be willing to hold both part-time positions and must also apply for both positions. Only applying for one of the two part-time positions is <u>not possible</u>.

ABOUT GHENT UNIVERSITY

Ghent University [https://www.ugent.be/] is one of the most important educational and research institutions in the Low Countries. More than 9,000 employees and 41,000 students live up to the credo "Dare to Think" every day. High-quality education, internationally acclaimed research and a pluralistic social responsibility characterize the mission of Ghent University.

The research group IDLab (Internet Technology and Data Science Lab) of the Faculty of Engineering Science and Architecture, Department of Electronics and Information Systems will collaborate with the RMFAB for the proposed FED-tWIN project. IDLab [https://www.ugent.be/ea/idlab/] conducts fundamental and applied research in various domains relevant to this vacancy (such as spatial analysis of multimodal data, data mining, web technology, and semantic intelligence). The available technical expertise in the development of building blocks for the enrichment of (heritage) collections is of great importance to start and support the FED-tWIN project.

ABOUT RMFAB

The RMFAB [fine-arts-museum.be] are part of the 10 federal institutions that fall under the authority of the Ministry of Science Policy. As a public service, they are authorized to conduct scientific research and manage a collection of more than 20,000 works of art (sculptures, paintings, drawings …) dating from the 15th century to the present day. About 2500 works are exhibited in the various Brussels museum departments: the Museum of Ancient Art, the Museum of Modern Art, the Constantin Meunier Museum, the Antoine Wiertz Museum, the Magritte Museum and the Fin-de-Siècle Museum. The museums organise temporary exhibitions to transfer related knowledge to the widest possible audience, publish scientific catalogues and manage the largest specialized library on Belgian art history.

PLACE OF EMPLOYMENT

- Royal Museums of Fine Arts of Belgium: Museumstraat 9, 1000 Brussels
- Ghent University, Faculty of Engineering Sciences and Architecture, Department of Electronics and Information Systems, IDLab (Internet Technology and Data Science Lab): AA Tower, Technologiepark-Zwijnaarde 122, 9052 Ghent

JOB DESCRIPTION

The first phase of the FED-tWIN employment mainly focuses on a pilot project that focuses on the automatic detection and annotation of saints in paintings. We do not only consider the purely descriptive level of the iconography, but also the substantive meaning (the actual subject) of what is depicted. Such automations can significantly speed up researchers' manual annotation. Moreover, these annotations will be linked to internationally standardized glossaries (such as Iconclass) within the tailor-made wikibase of the RMFAB. Both actions will help increase the interoperability of the collection data and facilitate its digital dissemination to a wide audience.

In the second research phase (after 5 years) the scope will be expanded to the other sub-collections and infrastructures within the RMFAB. A tool is being developed to search all existing digitised RMFAB sources (different carriers/formats via data, text and image recognition) via one internal search. In addition, support is provided for multimodal cross-collection links. This should be seen as a first step to enable future data transfer between the Federal Scientific Institutions, and later to extend this to a broader national, European and even global level.

As a general goal, the intended candidate should also raise awareness of the usefulness of digital art history, AI and the semantic web in the management and study of digital heritage collections.

PROFILE

The candidate is able to provide technical support in data management (analysis and data modeling), and assist in creating digital access to make scientific research data available as open data. Knowledge of and hands-on experience with international metadata standards is certainly a plus. A suitable candidate knows the following concepts: Linked Open Data, semantic web (RDF, ontologies, SPARQL …), machine/deep learning (transfer learning, (R-) CNNs, GANs …). S/He is also aware of the objectives of Open Science and can find his/her way in the datasets/tools/platforms that are relevant to the sector. Knowledge of the most important Belgian legislation and European guidelines on copyright and reuse in the heritage sector is recommended.

The candidate is able to combine and validate academic and practical knowledge and is able to communicate about it in an understandable way for the end users.

S/he must actively participate in profiling Ghent University, IDLab and the Royal Museums of Fine Arts of Belgium as leading figures within the GLAM sector (Galleries, Libraries, Archives and Museums) in the field of innovative enrichment techniques applied to cultural heritage.

The candidate must also consider the development of a data management plan (in accordance with the FAIR research data management principles), ensure coordination between the work packages, and stimulate collaboration with colleagues in both organizations. The candidate must also comply with the "Code of Ethics for Scientific Research in Belgium", which sets out the main principles of ethically responsible scientific practice.

KNOWLEDGE/EXPERTISE

- Project management: research leader or work package leader of at least 1 related project in the domain of digital heritage, computer vision or semantic knowledge generation.
- 2 years of experience in project communication (colloquium, reports, minutes, vulgarising/informative texts for the general public, etc.)
- Lead (or have participated) in the writing of project proposals to obtain funding in one of the above fields.
- Experience in supervising doctorates and master's theses (minimum 3 students in the last 2 years).
- At least 5 qualitative publications in magazines and 10 presentations at international conferences in the fields related to this proposal.
- Experience with heritage data (e.g. collection registration and access) or relevant experience within a cultural heritage institution.
- Active participation in Wiki community, hackathons … during the last 2 years.

More specific skills:

- Strong analytical and problem solving skills and programming skills (eg in Python, C ++/C #, JavaScript…). Furthermore, any experience with data visualisation and/or user interface design is a plus.
- Good knowledge of Dutch, French and English (both oral and written). In possession of the required communication skills, flexibility and critical mind to collaborate with researchers of different nationalities and disciplines.
- The candidate is a team player and takes initiative where necessary. Experience in organising and conducting meetings is also required.
- The candidate is motivated to work in a museum context and is interested in applied IT and new digital tools within the sector.
- Above all, the candidate must be highly motivated, eager to learn and contribute to the research.

CONDITIONS FOR ADMISSION

The intended candidate holds a degree of *Doctor of Engineering - Computer Science* or *Doctor of Information Engineering Technology* or an equivalent degree, and can demonstrate achievements (such as magazine and conference publications) on the subject of this vacancy. The candidate also masters the core aspects of computer vision, machine learning and/or semantic knowledge generation. Any demonstrable activities in digital heritage/humanities are strongly recommended.

> *When assessing a foreign (non-EU) diploma, an equivalence certificate may still have to be requested from [NARIC](); we recommend that you - if necessary - start the recognition procedure at NARIC as soon as possible. You must have this recognition no later than the date of appointment.*

The candidate has at least 2 years of postgraduate experience on the date of appointment (the term of 2 years is determined on the basis of the date stated on the diploma). Having experience in international mobility, including through participation in research programs at research institutions not affiliated with the university where the highest degree was obtained, is also recommended.

The PhD degree is obtained at the earliest 12 years prior to the submission of the job application with derogations. The 12-year period is extended by one year for each maternity, parental & adoption leave of the candidate and for each long-term sick leave of the candidate or his/her immediate family.

APPOINTMENT INFO

The position consists of a joint commitment of both partners:

➢ a half-time employment contract (50%) for an indefinite period (19 hours per week) as a postdoc research assistant (SW2 contract position), at the Royal Museums of Fine Arts of Belgium, Museumstraat 9, 1000 Brussels.
➢ an appointment at Ghent University as a part-time (10% senior academic staff) lecturer for a renewable period of 5 years and as a postdoc research assistant (40% - indefinite duration, scale PD1 to PD4), Department of Electronics and Information Systems, Technologiepark-Zwijnaarde 122, 9052 Ghent.

The candidate must be willing to hold both part-time positions and must also apply for both positions. Only applying for one of the two part-time positions is not possible. The candidate adheres to the regulations of both institutions.

Date of employment: September 1, 2021.

OFFER

Ghent University - benefits

The ZAP career policy is based on talent development and growth, in which vision development and strategy - both personal and at group level - are central. Ghent University focuses on career guidance and coaching of the ZAP member in the various phases of the career.

More information about the ZAP career: https://www.ugent.be/zaploopbaan

More information about the academic staff career:

https://www.ugent.be/nl/vacatures/mobiliteit-loopbaanpaden/loopbaanpad/wp

Every UGent staff member can count on a number of benefits such as a cycle kilometer allowance, bicycle rent/repair, reimbursement of public transport commuting, childcare, sports facilities with free insurance, teleworking, eco vouchers …

https://www.ugent.be/en/work/talent/next-steps

RMFAB - benefits

As a staff member of the RMFAB you can count on a number of benefits such as a bicycle allowance, free commuting by public transport, free hospitalisation insurance, all kinds of social benefits, flexible working hours and a workplace that is easily accessible by public transport (5 minutes walk) of Brussels-Central).

HOW TO APPLY?

You can only apply online via e-recruitment until the final registration date. We do not accept late applications or applications that are not delivered through the online application.

You need to add the following documents to your application:

➢ In the "CV" field: your CV
➢ In the "Motivation letter" field: your motivation letter
➢ In the "Diploma" field: a copy of the required diploma
➢ In the field "Other documents": a reference letter, study results ...

Note: each field has a limit of maximum 10 MB.

Ghent University pursues an equal opportunities and diversity policy and therefore encourages everyone to apply.

ADDITIONAL INFORMATION

For additional information about the project and the position to be filled, please contact the promoters: Lies Van de Cappelle - lies.vande.cappelle@fine-arts-museum.be, Steven Verstockt - steven.verstockt@ugent.be.

For additional information about the selection procedure, please contact: Jan.Stalpaert@fine-arts-museum.be (RMFAB) or the Recruitment and Selection department of Ghent University (selecties@UGent.be).