

Doctor-Assistant (Full-Time Postdoctoral Researcher, AAP) in Agentic Modeling of Molecular Data Ghent University Global Campus, Korea

Ghent University Global Campus

Ghent University is a pluralistic institution, open to all regardless of ideological, political, cultural, or social background. Our credo is “*Dare to Think*.” As a top-100 university with more than 49,000 students and 15,000 staff members, we are one of the largest universities in the Dutch-speaking world, located in Flanders, Belgium. Our 11 faculties offer more than 200 programs and conduct in-depth research across a wide range of scientific domains. Several of our research groups, centers, and institutes are internationally renowned in fields such as biotechnology, aquaculture, microelectronics, and history, among others. In 2017, Ghent University celebrated its 200th anniversary. Over the past two centuries, our university has welcomed many eminent scientists, ministers, and even Nobel Prize winners among its staff and alumni.

Ghent University Global Campus (GUGC) is the first European university established in Songdo, South Korea. It offers Bachelor of Science programs in Molecular Biotechnology, Environmental Technology, and Food Technology. The main research areas at GUGC include plant biotechnology, biomedical technology, biotech data science, food technology, and environmental technology.

Please visit the homepage of Ghent University (<http://www.ugent.be/en>) and Ghent University Global Campus (<http://ghent.ac.kr/> | <http://www.ugent.be/globalcampus/en>) to learn more about our organizations.

Center for Biosystems and Biotech Data Science (KR01)

The mission of the Center for Biosystems and Biotech Data Science, located at the Global Campus of Ghent University in Korea, is to develop novel mathematical and computational approaches for modeling biosystems and analyzing biotech datasets. A core technology employed by the center's researchers is deep machine learning, which supports the creation of innovative concepts, methodologies, and tools in both molecular biology and computer vision. In addition, the Center—currently comprising three resident professors, one associate professor, three postdoctoral researchers, and ten PhD candidates—offers nine courses at Ghent University Global Campus (totaling 65 ECTS), covering subjects ranging from Informatics to Bioinformatics and Probability & Statistics.

Current research lines with a strong focus on (deep) machine learning are:

- Trustworthy and interpretable AI with uncertainty quantification
- Detection and characterization of sub-visible particles in microscopy images of biopharmaceuticals
- Deep learning and sensor technologies for fusion-based object detection and classification

- Deep learning for biological sequence analysis (e.g., generative AI for structural and functional annotation)
- Deep learning for biomolecule design and characterization (small molecules, enzymes)
- Improving reliability and generalization of deep neural networks
- Neural rendering for real-time organ reconstruction
- Physical AI for lab automation and robotic surgery
- Surgical video analysis

Internet Technology and Data Science Lab (TW06)

The Internet Technology and Data Science Lab (IDLab) is a core research group of imec, with research activities embedded at Ghent University. With more than 300 researchers, IDLab is one of the largest research groups within imec, conducting both fundamental and applied research in internet technology and data science. Its research areas include machine learning and data mining, semantic intelligence, and cloud and big data infrastructures, among others. Notably, IDLab graduates are currently employed at leading institutions such as Google DeepMind and Google AI.

Job Summary

Doctor-Assistant (AAP) – Ghent University Global Campus

Department: Department of Environmental Technology, Food Technology, and Molecular Biotechnology (KR01)

Department: Department of Electronics and Information Systems (TW06)

Degree: PhD degree in one of the following disciplines: computer science/engineering, informatics, electrical engineering, applied mathematics, biomedical engineering, or a related field

Contract: 2 years + 2 years + 2 years (contract renewal is conditional on a positive evaluation)

Occupancy rate: 100%

Vacancy type: Doctor-Assistant (Postdoctoral Researcher, AAP)

Last application date: Review of applications will begin on December 1, 2026, and continue until the position is filled

Starting date: February 1, 2027 (open to negotiation)

Location: Ghent University Global Campus, Songdo, Korea

Scientific supervisors: Prof. Wesley De Neve, Prof. Joris Vankerschaver, Prof. Shodhan Rao

Job Position

Ghent University Global Campus (GUGC), South Korea, has a vacancy for a Doctor-Assistant (Postdoctoral Researcher, AAP) in the area of agent-guided molecular data science, starting from February 1, 2027 (open to negotiation). This is a 2-year full-time position that is renewable twice (upon favorable evaluation), for a total period of 6 years. For non-Korean applicants, free accommodation and a yearly travel budget are foreseen. GUGC is an equal opportunities employer.

The selected candidate will work as a Doctor-Assistant at the Center for Biosystems and Biotech Data Science of the Ghent University Global Campus in Korea, under lightweight guidance of two to three scientific supervisors.

In the role of Head Teaching Assistant, the selected candidate is expected to spend a maximum of 30% of their appointment supporting the department in teaching an undergraduate course in bioinformatics (5 ECTS, approximately 75 students), covering frequently used algorithms and data structures for pattern finding, sequence matching, sequence alignment, and genome annotation, among other topics. These activities primarily include supervising exercise sessions and computer labs, assisting in the development of new course materials (e.g., assignments and exam questions), grading assignments and exams, and supervising internships (at least two per year) and annual bachelor projects (at least one per year).

Apart from helping with teaching, the selected candidate is expected to contribute to ongoing research activities at the center, assisting the supervisors with the mentoring of bachelor's students, master's students, and PhD candidates. These research activities primarily focus on molecular data analysis and design, including genome and protein annotation, virtual transcriptomics, molecular interaction prediction, molecular design, and the optimization of biochemical processes. Specific applications include structural and functional genome and protein annotation, protein interaction prediction, de novo enzyme design, peptide design, the generative design of small molecules for therapeutic purposes, enzymatic hydrolysis, and peptide cell penetration. The targeted research activities aim at leveraging agentic AI approaches and automated research workflows (e.g., Karpathy's Autoresearch).

Furthermore, the selected candidate is expected to initiate and attract external funding for new research lines that are related to the ongoing research activities of the center (through at least one yearly application for a grant at the national or international level, possibly involving internal and external project partners).

Finally, the selected candidate is expected to contribute to the service activities of the center, for instance participating in info days and contributing to the popularization of biotech data science.

Candidate Profile

- ♦ You hold a PhD Degree in one of the following disciplines: computer science/engineering, informatics, electrical engineering, applied mathematics, or biomedical engineering. Related disciplines may be considered as well.
- ♦ You have an excellent academic record of accomplishment.
- ♦ You have demonstrable experience at the intersection of (deep) machine learning and the life/health sciences, as evidenced by a strong publication record or the authorship of (relevant) software.

- ♦ You have a good command of, and a strong interest in, computer programming. In particular, you have good programming skills in languages such as C++, Python, and/or R. You are familiar with GitHub.
- ♦ You have strong analytical skills to interpret experimental results.
- ♦ You have demonstrable experience in building out an independent research line, as evidenced through a high-quality research statement.
- ♦ You show a strong interest in tutoring students and supervising exercise classes, for small and large groups of students.
- ♦ You have an excellent command of English (a minimum score of 80 on the TOEFL iBT test), both written and orally.
- ♦ You are comfortable with working in an international and multi-cultural environment that is dynamic in nature (Ghent University Global Campus counts more than 20 nationalities among its academic staff).
- ♦ You have experience with scientific computing and machine learning.
- ♦ Having experience with a deep learning framework (e.g., PyTorch, TensorFlow, or Keras) is considered an asset.
- ♦ Having one to two years of postdoctoral research experience is considered an asset, particularly with regard to applying for external research funding.
- ♦ You are intimately familiar with current trends in these areas and can talk knowledgeably about the potential impact upon your research and that of others.
- ♦ You possess good academic writing and presentation skills.
- ♦ You are detail- and results-oriented.
- ♦ If need be, you have the willingness to work flexible hours and to participate occasionally in events outside of the regular working hours.

Selection Criteria

- ❖ Scientific background and knowledge
- ❖ Educational experience
- ❖ Programming skills (computational and algorithmic thinking)

Application Documents

- ❖ Motivation letter (maximum one page)
- ❖ Full resume (CV), including a list of publications and research funding applications
- ❖ The contact information of at least two references
- ❖ Copy of the BSc and MSc degrees
- ❖ Transcripts (overview of study results)
- ❖ A link to your doctoral dissertation

- ❖ A teaching statement (maximum one page)
- ❖ A research statement that describes the proposed research in some of the areas mentioned above, focusing in particular on the objectives that will be pursued, together with a work plan (maximum one page)
- ❖ Code portfolio (describe your experience with scientific software development by highlighting 2-3 impactful software projects that you contributed to; provide links to GitHub wherever possible, and for collaborative work, clearly indicate which part is yours)

The application documents must be merged into a single PDF file and be sent via email to Prof. Wesley De Neve (wesley.deneve@ghent.ac.kr) (subject line: Doctor-Assistant in Agentic Modeling of Molecular Data). The candidate will receive an email confirming receipt of the application.

Application Process and Interview

- ♦ Interviews will take place in stages from the first available time.
- ♦ Applicants are encouraged to apply in a timely fashion as the position will be filled upon finding the right candidate.

We reserve the right to hold applications on file for future job openings. For inquiries, please contact us via email.

Selection Process

- ♦ CV screening and shortlisting -> Interview and technical test (programming in Python and use of Linux) -> Internal committee -> Approval -> Acceptance notice to the candidate selected.

Compensation & Benefits for the Selected Candidate

- ♦ Basic terms of the contract: A 2-year contract (renewable twice, each time after a positive evaluation, for a total period of maximum 6 years).
- ♦ Salary: Starts from an Annual Base Salary of 46,624,160 KRW (Monthly Salary of 3,885,347 KRW, Gross).
- ♦ Bonuses
 - Two additional bonuses in June (92% of monthly salary) and December (100% of monthly salary).
- ♦ Severance
 - Severance shall be paid when the contract ends and if the candidate worked for more than one year.
- ♦ Private health insurance
 - Marsh private health insurance is provided, which includes basic medical reimbursements.

- ♦ Annual paid leave and holidays
 - The selected candidate shall have 35 days of paid annual leave per year.
 - Additional holidays: from Christmas (Dec 25) to New Year (Jan 1).