Job vacancy #2023-06653

Software Engineer for Development on 3D Gaussian Splatting

Contract type : Fixed-term contract
Level of qualifications required : Graduate degree or equivalent
Other valued qualifications : PhD, Master
Function : Temporary scientific engineer
Level of experience : Recently graduated

About the research centre or Inria department

The Inria centre at Université Côte d'Azur includes 37 research teams and 8 support services. The centre's staff (about 500 people) is made up of scientists of different nationalities, engineers, technicians and administrative staff. The teams are mainly located on the university campuses of Sophia Antipolis and Nice as well as Montpellier, in close collaboration with research and higher education laboratories and establishments (Université Côte d'Azur, CNRS, INRAE, INSERM ...), but also with the regiona economic players.

With a presence in the fields of computational neuroscience and biology, data science and modeling, software engineering and certification, as well as collaborative robotics, the Inria Centre at Université Côte d'Azur is a major player in terms of scientific excellence through its results and collaborations at both European and international levels.

Context

Our recent method “3D Gaussian Splatting for Real-Time Radiance Field Rendering” (https://repo-sam.inria.fr/fungraph/3d-gaussian-splatting/ 3DGS) is currently the state of the art method for real-time rendering of captured environments. Our method has been tested by hundreds of users, and shown to have excellent performance for applications varying from urban design to e-commerce.

The are seeking to hire a highly motivated candidate who will be part of this exciting project, improving the method with software engineering work, for wider adoption and better useability and speed, while working alongside the GRAPHDECO group that is continuing the advancement of new research ideas in this project.

This position is a great opportunity to be part of a world-class team of researchers working on exciting and timely projects. The successful candidate will acquire top-notch first-hand knowledge and experience in radiance field rendering which is in extremely high demand today, providing excellent skills for career enhancement.

Assignment

The work will include the development of new features for 3DGS, including porting to other rendering APIs/platforms, integrating the viewer with python, optimizing the method by removing pytorch overhead, optimizing pose estimation and handling exposure correctly. Some such features may come from requests from industrial partners. Other tasks will also include assisting Ph.D. students and postdocs in their research projects on software engineering tasks of various kinds.

Skills

The ideal candidate will have a Masters in Computer Graphics (including courses in interactive/real-time rendering), and have taken some courses in Machine Learning; knowledge of OpenGL and other real-time rendering APIs (Vulkan, Direct3D, Metal) is required, as well as experience in C++ and python, together with (at least basic) knowledge of pytorch. Experience in work in moderately complex software systems is highly recommended.

We are searching for recent graduates, but also for candidates with a few years experience.

Benefits package

- Subsidized meals
- Partial reimbursement of public transport costs
- Leave: 7 weeks of annual leave + 10 extra days off due to RTT (statutory reduction in working hours) + possibility of exceptional leave (sick children, moving home, etc.)
- Possibility of teleworking and flexible organization of working hours
- Professional equipment available (videoconferencing, loan of computer equipment, etc.)
- Social, cultural and sports events and activities
- Access to vocational training
- Contribution to mutual insurance (subject to conditions)
Remuneration

From 2692 € gross monthly (according to degree and experience)

General Information

- Theme/Domain: Interaction and visualization
  Software engineering (BAP E)
- Town/city: Sophia Antipolis
- Inria Center: Centre Inria d'Université Côte d'Azur
- Starting date: 2023-10-01
- Duration of contract: 1 year
- Deadline to apply: 2023-11-12

Contacts

- Inria Team: GRAPHDECO (DGD-S)
- Recruiter: Drettakis George / George.Drettakis@inria.fr

About Inria

Inria is the French national research institute dedicated to digital science and technology. It employs 2,600 people. Its 200 agile project teams, generally run jointly with academic partners, include more than 3,500 scientists and engineers working to meet the challenges of digital technology, often at the interface with other disciplines. The Institute also employs numerous talents in over forty different professions. 900 research support staff contribute to the preparation and development of scientific and entrepreneurial projects that have a worldwide impact.

The keys to success

The ideal candidate will be familiar with the main concepts of computer graphics and real-time/interactive rendering, and will have experience with moderately large software system development. The ability to work and interact well with a team of motivated researchers is essential. The specific background requirements are listed below.

Warning: you must enter your e-mail address in order to save your application to Inria. Applications must be submitted online on the Inria website. Processing of applications sent from other channels is not guaranteed.

Instruction to apply

Defence Security: This position is likely to be situated in a restricted area (ZRR), as defined in Decree No. 2011-1425 relating to the protection of national scientific and technical potential (PPST). Authorisation to enter an area is granted by the director of the unit, following a favourable Ministerial decision, as defined in the decree of 3 July 2012 relating to the PPST. An unfavourable Ministerial decision in respect of a position situated in a ZRR would result in the cancellation of the appointment.

Recruitment Policy: As part of its diversity policy, all Inria positions are accessible to people with disabilities.