



Offer #2025-08865

Zero-Shot Compositional 3D Scene Reconstruction

Contract type : Fixed-term contract

Renewable contract : Yes

Level of qualifications required : Graduate degree or equivalent

Fonction : Temporary scientific engineer

Assignment

Goal: Reconstruct arbitrary scenes into compositional 3D representations from single images or videos.

Problem: Prior work generalizes across distribution shifts, yet is inherently restricted to the asset vocabulary and concepts introduced during finetuning.

Solution: Instead of finetuning language models directly for inverse graphics, leverage pretrained VLMs zero-shot as high-level planners that orchestrate specialist tool.

Main activities

Main activities :

- Design novel algorithms for reconstructing scenes into compositional 3D representations
- Implement the approach and experiment with different variations
- Evaluate on state-of-the-art datasets and compare these results

- Test and change until validation
- Write a report describing progress

Skills

Technical skills and level required : Experience in coding and research

Languages : English

Relational skills : Collaboration and team work skills

Other valued appreciated :

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
- Social security coverage

General Information

- **Theme/Domain** : Vision, perception and multimedia interpretation
Statistics (Big data) (BAP E)
- **Town/city** : Paris
- **Inria Center** : [Centre Inria de Paris](#)
- **Starting date** : 2025-06-01
- **Duration of contract** : 6 months
- **Deadline to apply** : 2025-05-29

Contacts

- **Inria Team** : [WILLOW](#)
- **Recruiter** :
Schmid Cordelia / cordelia.schmid@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 candidate needs to have excellent research and engineering skills. Research experience and published papers is a plus.

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.