

## Internship context

Based in Saclay (Essonne), the LIST is one of the two institutes of CEA Tech, the Technological Research Division of the CEA. Dedicated to intelligent digital systems, its mission is to carry out technological developments of excellence on behalf of industrial partners, in order to create value.

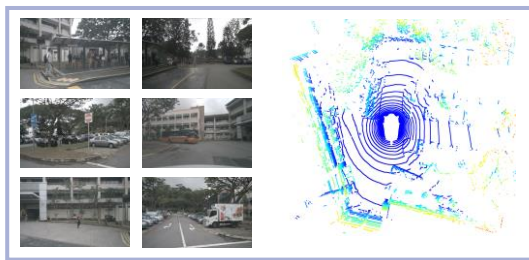
Within the LIST, the Laboratory of Vision and Learning for Scene Analysis (LVA) conducts its research in the field of computer vision and artificial intelligence for the perception of intelligent and autonomous systems. The laboratory's research themes include visual recognition, behavior and activity analysis, large-scale automatic annotation, and perception and decision models.

## Missions

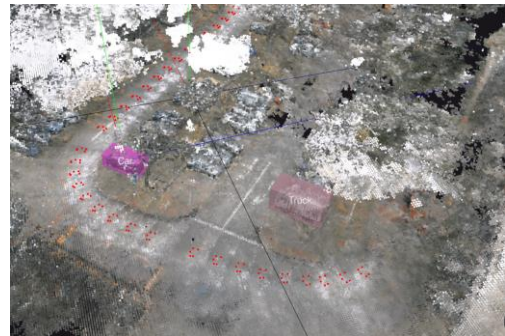
Annotating in 3D such (detection, segmentation ...), is required to train reliable perception models, which can be used in autonomous driving for example. However such a process requires multi-modal (camera, LIDAR, RADAR) visualization and annotation which is a complicated and costly process. This is why at CEA-List we aim to develop smart tools to facilitate this annotation process.

The objective of the internship is to allow for multi-modal annotation and visualization of 3D scenes. For example, annotate a scene observed by an autonomous vehicle with both cameras and LIDAR sensors. Develop both backend and front end for our open source annotation tool [PIXANO](#) to allow for :

- Multimodal visualization (camera / LIDAR / bev / 3D)
- Visualization of Nerf and/or Gaussian splatting
- Annotation in 2.5D at bird's eye view



Multi-modal input



3D annotation

## Qualifications

- Students in their 4th or 5th year of studies (M1, M2 or gap year)
- Computer vision skills
- Strong interest for 3D
- Coding skills relevant for both frontend and backend development is best (Python, JavaScript, SQL)

## Job-related benefits

Joining the CEA List and the LVA as an intern means:

- Working in one of the most innovative research organizations in the world, addressing societal challenges to build the world of tomorrow
- Discovering a rich ecosystem: privileged connections between the industrial and academic sectors
- Conducting research autonomously and creatively: encouragement to valorize results (scientific articles, patents, open-source codes...)
- Join a young and dynamic team
- Benefit from an internal computing infrastructure with more than 300 state-of-the-art GPUs
- Receive a stipend between €1300 and €1400 per month
- Have the opportunity to continue with a PhD or as a research engineer after the internship
- Have the possibility of remote work, receive a 75% reimbursement on public transportation costs, and benefit from the "mobili-jeune" aid to reduce rent costs...