EPFL

School of Architecture,
Civil and Environmental Engineering,
Laboratory for Timber Constructions

Scientific IT & Application
Support
SCITAS

Semester Project: Cross Platform development of Augmented Reality Engine proposed by Laboratory for Timber Construction (IBOIS) and the Scientific IT & Application Support (SCITAS)

The laboratory IBOIS (directed by Prof. Yves Weinand) jointly with SCITAS is proposing a research project on the influence of CV, AR and AI in digital fabrication of timber structures.
The student will benefit from the resources of the Structural Engineering Group testing laboratory (testing halls, diverse equipment). The multi-disciplinary team of IBOIS as well as the CVLab will supervise and assist them in their work. In addition, they will also have at their disposal a budget for the purchase of possible extra IT-equipment needed for the task.

Goal

IBOIS is developing an open-source software for augmented manufacturing in timber construction called Augmented Carpentry (AC). It is currently targeting only UNIX machines and the objective of the semester project is to port the project to Windows platforms. The students will:
   a) providing an effective strategy to port the project and all the dependecies
   b) integrate the implementation into the existing active research project
   c) developing effective CI/CD pipelines for Windows platforms

Skills

- Strong knowledge in C++ and CMake is a must
- Basic Knowledge of cross-platform development
- Creative mindset and problem-solving skills

Planning

Week 2: work plan based on state-of-the-art techniques
Week 3: stand-up on the first proposal
Week 6: intermediate presentation on preliminary results
Week 9: stand-up meeting on refinements
Week 13: deadline for report and final presentation

Interested students can send an email with CV to andrea.settimi@epfl.ch