

# Career



The Institute of Systems Engineering of the HES-SO Valais-Wallis invites applications for a

## Post-doc research assistant in Real-time Hardware-accelerated Photogrammetry under the joint supervision of HES-SO Valais and EPFL-DHLAB

Digital photogrammetry is a costly operation from a computational resources perspective. In the ScanVan project, we aim at digitizing in real-time a whole city with an embedded system integrated into a vehicle. To achieve this goal with those reduced space and power requirements, a network of FPGAs, CPUs and GPUs will be used to implement new parallel photogrammetry algorithms that produce a 3D point cloud.

### Tasks

The research will center on the creation of a complete parallel digitization pipeline embarked onto a vehicle. This will consist in the electronic design of the platform, the integration of a special camera and the implementation of novel photogrammetry algorithms on FPGAs and/or GPUs. The candidate must be highly motivated, independent yet able to work closely with our partners at EPFL-DHLAB.

### Requirements

PhD in computer science or electrical engineering with a strong interest in high performance implementation of algorithms. Prior experience with FPGA and electronics is required, GPU programming is a strong plus. Fluent spoken and written English, French would be an advantage.

### Context

This research will take place within the DATA research group, part of the University of Applied Sciences Western Switzerland (HES-SO Valais) in Sion, the group is active in data processing techniques, electronics and high-performance computing. Topics of interest include acquisition and processing of data under limited resources. The position will be funded by the Swiss National Science Foundation.

### Contract details

- Contract duration: 36 months
- Level of employment: 70% to 100%
- Starting date: April 2017
- Work location: Sion (CH), in the beautiful swiss Alps.

Interested candidates should email their CV, a brief statement describing how their research interests and skills relate to this position and two letters of recommendations to pierre-andre.mudry@hevs.ch. Please contact Prof. Mudry for any further information you may require.