RESEARCH:

Digital Geometry
The position is attached to the M2DisCo Team (Modèles Multirésolution, Discrets et Combinatoires) qf LIRIS research center. Candidate will develop research activities in Digital Geometry. Digital Geometry can be simply characterized as a set of definitions, theorems and algorithmic tools that deal with the geometric properties of subsets of digital pictures. A more generic definition considers the analysis of data structures on regular lattices. In this framework, our research activities have focused on defining high performance and generic algorithms to analyse and to perform measurements on objects embedded in digital images. To illustrate applications of Digital Geometry tools, we can mention two collaborations with Social Sciences (REVES project), and with both Material Sciences and Applied Mathematics (digitalSnow project). In this context, we would like to focus on the interactions between digital geometry and computational geometry for the theoretical analysis and the design of differential estimators (curvature, normal vectors,...) and volumetric descriptors (medial axis, skeleton,...). More precisely, we would like to consider these characteristics in terms of numerical and topological stability or multi-grid convergence. Experience on software development would be appreciated. Furthermore, we would have to consider these tools within a topological model which represents regions and objects in digital images. Beside this specific profile “digital geometry”, we encourage all PhD students with activities in the m2disco team scope to candidate.

Contacts research:
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TEACHING:

Software Engineering for distributed and mobile applications
The candidate should have strong skills in software engineering and development in order to be able to give courses in agility based methods. These skills can rely on : high level software projects (like open source ones), experiments in test driven development ...
The candidate will be member of the ‘informatic’ pedagogic team of the department. He will be involved for teaching mainly in the 4th year of the department within courses like the ‘Software engineering and model’ or ‘Agility’ ones. In the future, the candidate could also be involved in setting a new 5th year transversal course on Agility.

Contact teaching:
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