Post-doc Position

Dates : From October 2005 to September 2006
Lab. : Ariana, joint group CNRS/INRIA/UNSA
Loc. INRIA Sophia Antipolis - France
Contact : Xavier Descombes

This project forms part of a collaboration (ARC) entitled "MODE de VIE": Modeling and Detecting vegetation in interaction with their environment (url: http://www-sop.inria.fr/ariana/Projets/ModedeVie/MODEdeVIE.html). One key aim of this collaboration is to develop an automatic tool to study forestry populations from remote sensing images. Several work packages have been outlined : tree extraction, texture analysis, shape analysis, and classification from textural and shape parameters. The results can be validated using forestry simulation software based on the growth model GreenLab. From the application point of view, these tools will enable us to simulate a 3D rendering of a forestry area, to study the evolution of a population between two dates, and to forecast the evolution of the forestry, both from an architectural and from a functional point of view.

The candidate will have to combine the different results obtained by the tree detection procedure and the textural and shape analysis. In particular, he/she will propose and develop the classification procedure. To achieve this, he/she will rely on the extraction tools developed within the Ariana project. He/She will develop statistical tools to validate the resulting classification, based on the different tree species, the age of trees and some biomass parameters. He/She will also be in charge of plantation simulation from the information extracted at a given date, using the forestry growth software.

This project is a collaboration with the DigiPlante team (INRIA Rocquencourt and Ecole Centrale Paris) and the Liama Institute (Beijing). Some trips to Paris and Beijing will be scheduled.

The successful candidate will have a PhD in computer science (image processing) or a related field. Some background in statistics would be highly appreciated.

An application should contain a detailed CV, a publication list and two recommendation letters, to be sent by email to Xavier.Descombes@sophia.inria.fr (with copy to zerubia@sophia.inria.fr and zuzia@sophia.inria.fr).

INRIA is an Equal Opportunity and Affirmative Action Employer and strongly encourages applications from women and members of minority groups.