Visualization and analysis of very large 3D images

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Laboratoire
d'Informatique
de Robotique
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de Montpellier

LIRMM

UNIVERSITÉ MONTPELLIER 2
SCIENCES ET TECHNIQUES

Background

* 2007-2012: Diploma in Informatics Engineering
  * Technical skills and competences
    * Artificial Intelligence Techniques:

      Computer Vision

      Neural Networks, Robotics and Fuzzy Logic

      OCR and language processing

      Business Intelligence (OLAP - Data Mining)
* 2010-2012: Trainee at Automata4 company
  * System Analyst and Business Intelligence Researcher

Background

* Projects:
  * Graph theory and shortest Path application
    Compiler project
  * Image processing: fuzzy filter
  * Building a neural network for English alphabet recognition
  * “Fire detection in video frames using computer vision”
    Result: 96% (Excellent evaluation)
  * “Online Hand writing recognition for Arabic language”
    Result: 92% (Excellent evaluation)

Background

* Certificates and awards:
  * 2007: Neuro Linguistic Programming (Certified NLP Diploma)
  * 2011: Certificate of Appreciation (Excellent Direction)
  * 2012: Certificate of Thanks and Appreciation (General organizer)
  * 2012: Certificate of Thanks and Appreciation (Image processing)
  * 2012: Certificate of Diploma in the Informatics Engineering

Current Occupation

* Sept 2012 to present: Master 2 of IMAGINA
  * First semester

    Image: compression and data hiding, Computer vision, Medical imaging, Serious game and Virtual reality.
  * Second semester

    Internship at LIRMM

Internship

Visualization and analysis of very large 3D images

Internship

* Visualization and analysis of very large 3D images
  1. The problem
     * Very large 3D images: 2000*2000*2000 voxel
     * Standard computers
  2. Visualization
     1. Decomposition into blocks
     2. Low resolution window and high resolution zoom window
  3. Processing
     1. Applying some basic processing operators
     2. Matching the results

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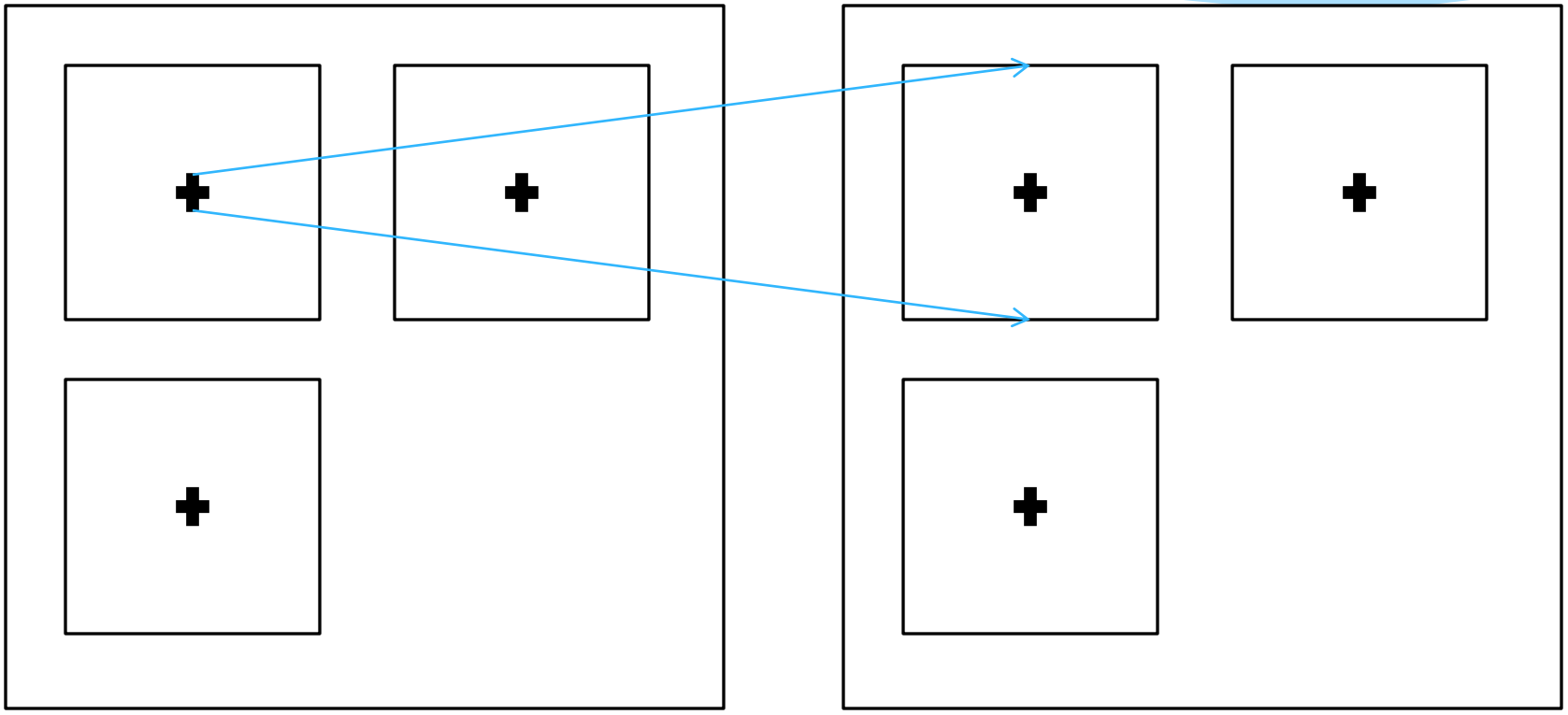
Internship



Low Resolution window

High Resolution Zoom window

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Planning

1. 1st Month: Implementation of the visualization tool.
2. 2nd Month: Implementation of some processing operators.
3. 3rd Month: Study the results and prepare the final report.

Merci de votre attention