CREATIS | Medical Imaging Research Laboratory
www.creatis.insa-lyon.fr

UNIVERSITÉ DE LYON

INSA INSTITUT NATIONAL DES SCIENCES APPLIQUÉES LYON

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Lyon 1

UNIVERSITÉ JEAN MONNET SAINT-ÉTIENNE

PRIMES UNIVERSITE DE LYON

11ème workshop VIP

27/06/2022

VIRTUAL IMAGING PLATFORM

Programme

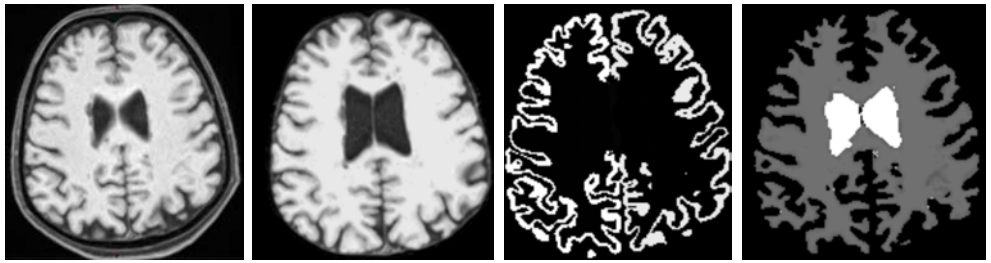
- Tour de table (10')
- Courte introduction et nouvelles de VIP, par Sorina Pop (10')
- Exécution des pipelines d'analyse disponibles dans VIP depuis l'outil de gestion de données Girder, par Axel Bonnet (20')
- Projet ReproVIP, par Gaël Vila (20')
- Reproductibilité avec VIP dans le cadre de segmentation de tumeurs de la base du crâne, par Morgane Des Ligneris (20')
- Table ronde et discussions : comment est-ce que VIP peut vous aider dans la reproductibilité de vos travaux scientifiques ? (30')
- Divers (10')

What VIP provides

- Scientific applications as a Service
  - More than 20 applications publicly available
- Transparent access to computing resources
  - 395 CPU years (EGI biomed VO) used in 2019-2020
- Large community
  - More than 1300 registered users
- Open and reproducible science
  - Zenodo, DOIs, Containers, Boutiques

VIRTUAL IMAGING PLATFORM

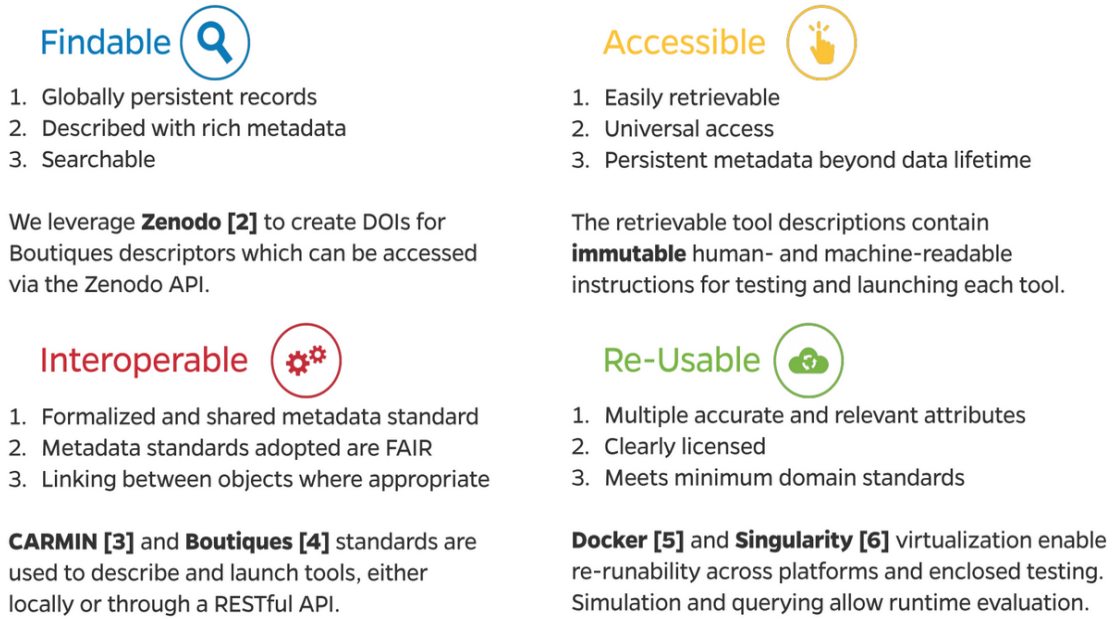
https://vip.creatis.insa-lyon.fr



Example of white/grey matter brain segmentation with Freesurfer on VIP
Credits : Berardino Barile and Dominique Sappey-Marinier, Creatis

Turning scientific applications into services

- Integrate a new application in VIP in 3 main steps
  - Build a Docker or Singularity image containing the scientific application
  - Create a Boutiques descriptor of the application
  - Send them to the VIP team
- Boutiques
  - Describe, publish, integrate and execute applications **across platforms**
  - https://github.com/boutiques
- VIP in the EOSC market place
  - https://marketplace.eosc-portal.eu/services/virtual-imaging-platform/



FAIR tools. Credits: Gregory Kiar and Tristan Glatard

People

VIP core team

- Sorina Pop, IR CNRS
- Axel Bonnet, IR CNRS
- Frédéric Cervenansky, IR Université


Sorina Pop


Axel Bonnet


Frédéric Cervenansky

Currently working with us

- Alexandre Cornier, CNRS engineer, EGI ACE project
- Sandesh Patil, INRIA engineer, FLI IAM project
- Gaël Vila, CNRS postdoc researcher, ANR ReproVIP


Alexandre Cornier


Sandesh Patil


Gaël Vila

Creatis research teams' members

- All Creatis teams were represented by at least one person
- See meeting reports at https://www.creatis.insa-lyon.fr/site7/fr/vip

External collaborations

- Tristan Glatard, Associated Professor at Concordia University, Montreal


Tristan Glatard

Most used applications in VIP in 2021

- MicroVIP: 400+ executions and 26 users (tutorial)
- GateLab: 300+ executions and 19 users
- Freesurfer: 100+ executions and 10 users
- Coil Charcaterization: ~60 executions and 6 users
- MICCAI MSSEG2 Challenge Pipelines
  - 31 pipelines executed on train and test challenge data (100 patients)

Divers

- Tutoriel VIP – conférence imagerie médicale
  - Avez-vous des idées ? Des applications à présenter ?
- Hackathon
  - Initialement orienté neuro, mais les objectifs exacts restent à définir