

**NAME**

jfrey - Jean-François Rey Curriculum Vitae

**SYNOPSIS**

**jfrey** [--forename Jean-François] [--surname Rey]  
**jfrey** [--computer-scientist] [--r-and-d-computer-engineer] [--software-engineer] [--project-manager]  
**jfrey** [--gitlab-advocate] [--ci-cd-advocate] [--devops-culture] [--itswissknife] [--devswissknife]  
**jfrey** --email [jean-françois.rey[at]inrae.fr]  
**jfrey** --where [INRAE [French National Institute of Agricultural Research] Avignon France]  
**jfrey** --since [2013]

**DESCRIPTION**

**jfrey** is a **computer scientist**, **R&D computer engineer**. He's passionate about Computer Science, Development, IT and Geeks stuff.

**jfrey** is curious, enthusiastic, and independent in his work. He likes to discover, test and apply new technologies to answer scientific problems.

Since 2013 **jfrey** works at the French National Institute of Agricultural Research (@INRAE). He's coding for the Plant Health and Environment department (@SPE) in the Biostatistique et Processus Spatiaux laboratory (@BioSP).

He's mainly involved in the development and deployment of applications and statistical methods for epidemiology as **software engineer** and **project manager**.

**CONFIGURATION**

**jfrey** main configuration as software engineer is to give support to the team and to manage scientific projects for the engineering part.

Most projects are written in C/C++ and R, and are managed using Agile methodology. Scrum options availables **--ScrumMaster** or **--Product-Owner**

Configuration can be modify at any time using the options **--release-new-fun-stuff** or **--new-challenges**.

**OVERVIEW**

The laboratory BioSP conducts studies in statistics, in dynamic systems, in ecology-epidemiology, and in the interfaces between these different disciplines with a particular interest for spatial and spatio-temporal questions. The fields of applications of this works are in ecology, agriculture and environment.

**jfrey** takes part in stochastic modeling in ecology and epidemiology. He mainly interacts with statisticians and mathematicians researchers and coworkers. He use to meet epidemiologists and biologists for specific projects.

**jfrey** is scientific and operational IT project manager.

**jfrey** used to implement Bayesian methods such as Markov Chain Monte Carlo (MCMC) algorithms and also dispersion models, kernel dispersion/convolution, genetical-spatio-temporal inferences methods, stochastic geometry...

He also does some GUI, GIS, web applications, system administration and he animates internal training.

**jfrey** makes good coffee.

**EXAMPLES****GAEV**

Gestion Automatique d'Environnement Virtuel (GAEV) is a project to establish a software infrastructure allowing to create, configure, reference and store on demand environments in the form of "heavy" virtual machines deployable at multiple scale. The primary goal is to facilitate scientific applications sharing.

**--link-to** GAEV <https://forgemia.inra.fr/gaev/gaev>

**MEMM**

Mixed Effects Mating Model (MEMM) implements a Bayesian statistic method. It estimates the pollen dispersal function and the variance in male fecundity on the basis of spatial information (positions of sampled plants, positions of all putative fathers in the study plot) and genetic information (genotypes of the sampled plants, putative fathers and sampled seeds).

The application MEMM is mainly written in C++ and packaged for different OS.

--link-to MEMM <http://informatique-mia.inrae.fr/biosp/MEMM>

--link-to Gitlab repository for the latest release <https://gitlab.paca.inrae.fr/jfrey/MEMMseedlings.git>

## Landsepi

*Landsepi* is a R package that implements a spatio-temporal stochastic model to assess resistance deployment strategies against plant pathogens. The model is based on works of INRAE and CSIRO teams members : Rimbaud L., Papaix J., Rey J.-F., Barrett L. G. and Thrall P. H. and led to a paper call "Assessing the durability and efficiency of landscape-based strategies to deploy plant resistance to pathogens." .

The package is written in C/C++ and R.

--link-to landsepi repository <https://gitlab.paca.inrae.fr/CSIRO-INRA/landsepi>

--link-to CRAN repository <https://cran.r-project.org/package=landsepi>

--link-to Shiny App [demonstration](#)

--link-to Paper <https://doi.org/10.1371/journal.pcbi.1006067>

## BriskaR

*Biological Risk Assessment in R* (briskaR) is a R package that implements a spatio-temporal exposure-hazard model for assessing biological risk and impact. The model is based on stochastic geometry for describing the landscape and the exposed individuals, a dispersal kernel for the dissemination of contaminants and an ecotoxicological equation.

--link-to briskaR repository <https://gitlab.paca.inrae.fr/biosp/briskaR>

--link-to CRAN repository <https://cran.r-project.org/package=briskaR>

--link-to Paper on Risk Analysis <https://doi.org/10.1111/risa.12941>

## Gitlab server

User and Administrator of a GitLab CE server (including CI/CD pipeline, runners such as Docker, VMs on Linux, Windows and MacOS. Also K8s cluster).

--link-to <https://gitlab.paca.inrae.fr/jfrey>

## ShinyProxy server

Administrator of a ShinyProxy server (including administration and container built).

--link-to <https://shiny.biosp.inrae.fr>

## R environment and GitLab CI/CD

A self hosted solution for R packaging creation, test, check and sharing and R-Shiny Apps continuous delivery using mainly GitLab CI/CD

--link-to [all documentations](#)

--link-to [R Package CI/CD](#)

--link-to [R-Shiny CI/CD](#)

## JAGS MecaStat module

*The JAGS MecaStat module* implements a plugin for JAGS (Just Another Gibbs Sampler) to integrate mecanico-statistical approaches.

--link-to <https://gitlab.paca.inrae.fr/jfrey/jags-module>

## SMITID

*Statistical Methods to Infer Transmissions of Infectious Diseases from Deep Sequencing Data* (SMITID) is a R package (in development) that carry out advanced research on the statistical analysis of pathogen sequence data to infer transmission links.

--link-to [www.biosp.org/anr-smitid-project/](http://www.biosp.org/anr-smitid-project/)

--link-to <https://gitlab.paca.inrae.fr/SMITID>

## APIMODEL

*APIMODEL information system* is an observatory of honeydew of apiaries.

The web application is developed using R Shiny and a PostGis database.

--link-to [https://shiny.biosp.inrae.fr/app\\_direct/API\\_Model/](https://shiny.biosp.inrae.fr/app_direct/API_Model/)

## SK8

*SK8* is a project to offer R-Shiny applications hosting as a service.

--link-to Project group <https://forgemia.inra.fr/sk8>

--link-to Introduction <https://imotep.inrae.fr/sk8>

## DEFAULTS

**jfrey** by default is always available (if not, try **--coffee** option).

**jfrey** processus adapts himself to the functioning and constraints according to the different interlocutors API.

By default, projects are managed using **--agile** methodology and **--devops-tools** options but the behaviour can be change using the option **--scientific-constraints**.

The following options are enables in loop mode with **--project** or **--sprint** options (set by default) and can be run in parallel with others processus using **--team-work** :

**--acquisition** makes possible to understand scientific problematic and to acquire new knowledge.

**--modeling** this option is for create|update application modeling and make technology choice.

**--coding** here it is for the implementation, debugging, profiling and optimization of the code.

**--building** use as possible continuous integration with unit Tests.

**--testing** test the application and the scientific results.

**--packaging** most projects are packaged for Linux, MacOS and Windows.

**--releasing** releasing new version at stable tag and at a scientific step for reproductivity.

**--configuring** can configure infrastructure and manage it.

**--monitoring** monitoring application and get end-user experience.

**jfrey** uses technologies and tools that can vary, take a look at **keywords** in **OPTIONS**.

## OPTIONS

### General options

#### **--name**

Jean-François Rey

#### **--contact**

jean-francois.rey[at]inrae.fr  
+33 4 32 72 21 73

#### **--address**

INRAE BioSP  
228, Route de l'Aérodrome  
Domaine St Paul - Site agroparc  
84914 Avignon Cedex 9

### keywords

#### **--development**

**--languages** **--and-libraries** [C/C++] [Python] [R] [Shell Script]

**--format** [Latex] [MarkDown] [XML]

**--tools** [svn] [git] [Gitlab CI/CD] [GNU autotools] [Cmake] [Cpack] [vi] [Rstudio] [doxygen] [docker] [VM]

**--packaging** [Application packaging] [R packaging] [Linux] [Windows] [MacOS]

**--db** [MySQL] [PostgreSQL, PostGis]

#### **--mathematics**

**--statistics** [classic] [Bayesian] [MCMC] [JAGS-module]

**--geometry** [GIS] [stochastic]

**--models** [dispersion] [inferences] [spatio-temporal] [genetico-spatio-temporal]

#### **--web**

**--languages** [HTML5] [CSS3] [JS] [php] [R Shiny]

**--libraries** [jQuery] [D3JS]

**--cms** [Drupal] [gollum]

--admin

--linux [Debian] [CentOS]

--gitlab-ce

--gitlab-ci

--gitlab-runner [Docker] [dind] [K8s cluster] [VM] [Linux] [Windows] [Mac OS]

--prometheus

--alertmanager

--grafana

--apache

--nginx

--shiny-proxy-server

## Pasts jobs

-d MM/YYYY , --date=MM/YYYY

--date=06/2013 [--date=08/2013]

**NLP Engineer** - Laboratoire d'Informatique d'Avignon (@LIA)- Avignon, France.

Project OTMEDIA. Analysis, study and development of a toolchain for Radio and TV transcriptions.  
([source](#))

--date=10/2009 [--date=08/2013]

**NLP R&D Engineer** - Laboratoire d'Informatique Fondamentale de Marseille (@LIF) - TALEP team  
- Marseille France.

Project Macaon. Research and Development of a Natural Language Processing Tools.

--date=06/2009 [--date=09/2009]

**Software Engineer** - Laboratoire d'Informatique d'Avignon (@LIA) - Avignon, France.

Project LUNA. Improvement of a humain-machine interface for hotel booking using speech recognition, tts and 3D avatar.

--date=09/2006 [--date=08/2008]

**Software Engineer** - Centre de Ressources Informatique de l'Université d'Avignon (@DOSI) -  
Avignon, France

Head of development and deployment of the web portal for the University of Avignon : [ent.univ-avignon.fr](http://ent.univ-avignon.fr) .

## ENVIRONMENT

### LANG

Set language to native **fr\_FR.UTF-8** (French) or fluent **en\_US.UTF-8** (English).

It possible to use Spanish or Italian but it may produce some bugs.

### HOME

Can be set to /Geek\_Stuff/, /Music/, /Cycling/, /Climbing/, /Hiking/ or /Traveling/.

## SEE ALSO

[BioSP](#), [GitLab page](#), [Linkedin](#), [Twitter](#), [StackOverFlow](#), [ResearchGate](#)

## HISTORY

2006 - MSC degree in Computer Science and Natural Language Processing - Centre d'Enseignement et de Recherche Informatique / UAPV, Avignon, France.

2004 - BSC degree in Mathematics and Computer Science -

Université de Montréal, Montréal, Quebec. (2004)

Universite d'Avignon et des Pays du Vaucluse, Avignon, France. (2003)

Université Joseph Fourier, Valence, France. (2002)

2001 - A-levels in Mathematics, Mechanics and Electronics - Lycée du Dauphiné, Romans-sur-Isère, France.

## BUGS

When coffee machine is empty.

## ERRORS

When coffee machine is broken.

**VERSIONS**

3.5 Continuous learning, may have upgrade and new release everyday.  
2021-06-04

JFREY\_CV(6)