NAME

jfrey - Jean-François Rey Curriculum Vitae

SYNOPSIS

jfrey [**--forename** Jean-François] [**--surname** Rey]
jfrey [**--computer-scientist**] [**--r-and-d-computer-engineer**] [**--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.

CONFIGURATION

jfrey main configuration as computer engineer is to give support to the team and to manage (and get involved in) scientific projects for the engineering part.

Most projects are written in C/C++ and R, and are managed using Agile methodology.

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 epidemiolgists and biologists for specific projects.

jfrey implements Bayesian methods such as Markov chain Monte Carlo (MCMC) algorithms and also dispersion models, kernel dispersion/convolution, genetico-spatio-temporal inferences methods, stochatic geometry...

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

EXAMPLES

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 lastest release https://gitlab.paca.inrae.fr/jfrey/MEMMseedlings.git

Landsepi

Landespi 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., Papaïx J., Rey J.-F., Barrett L. G. and Thrall P. H. and let to a paper call "Assessing the durability and efficiency of landscape-based strategies to deploy plant resistance to pathogens." .

The package is writen 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 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 suck as Dockers, 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

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/
--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/

DEFAULTS
jfrey by default is always available (if not, try **--coffee** option).
jfrey processus adapts himself to the functioning and constraints according to the differents 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** option (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

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+33 4 32 72 21 73

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

keywords (currently)
--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 .

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
Continuous learning, may have upgrade and new release everyday.