



CEFET/RJ



CONCEPT DRIFT (EVENT DETECTION)



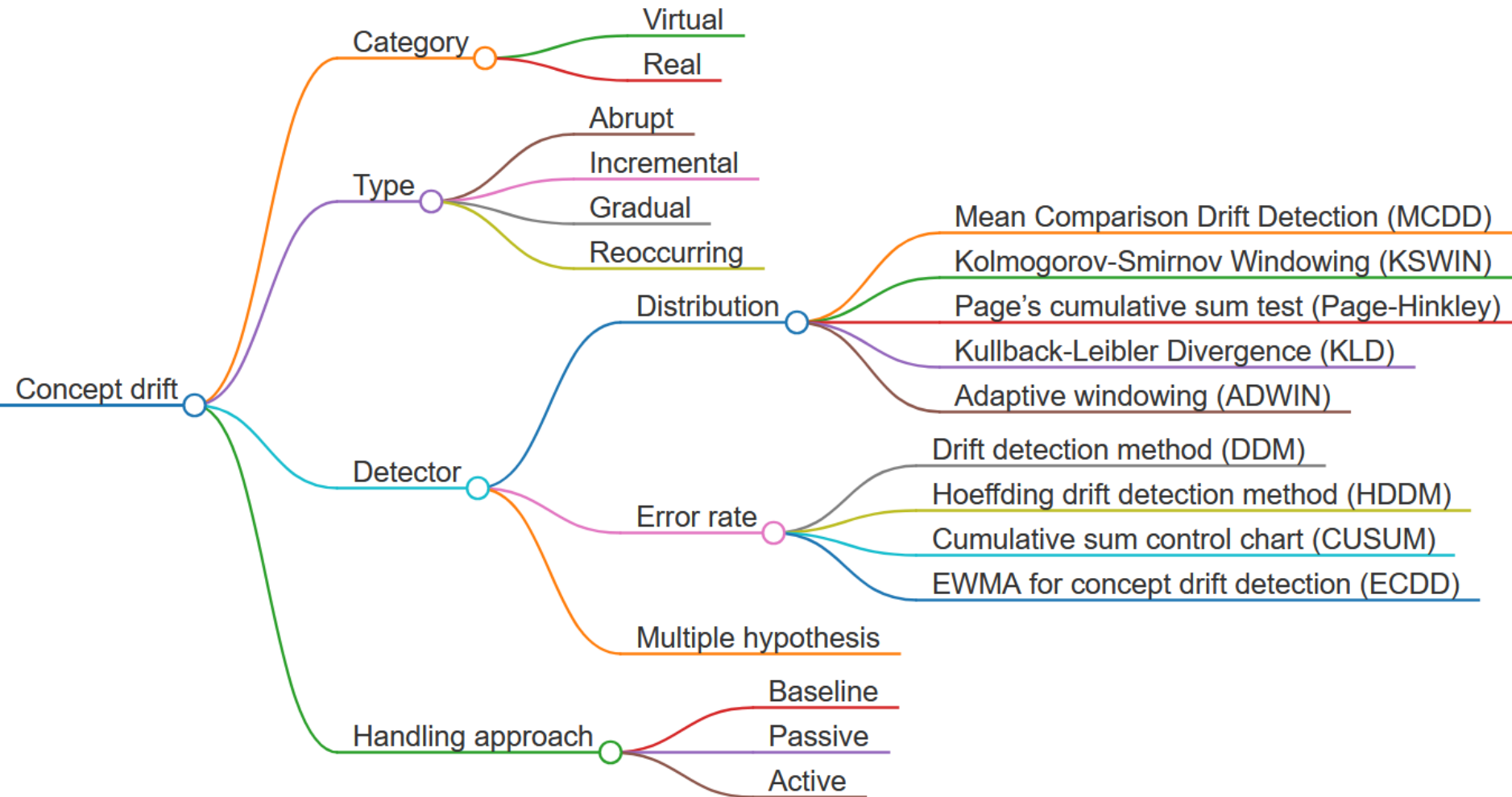
LNCC

Eduardo Ogasawara

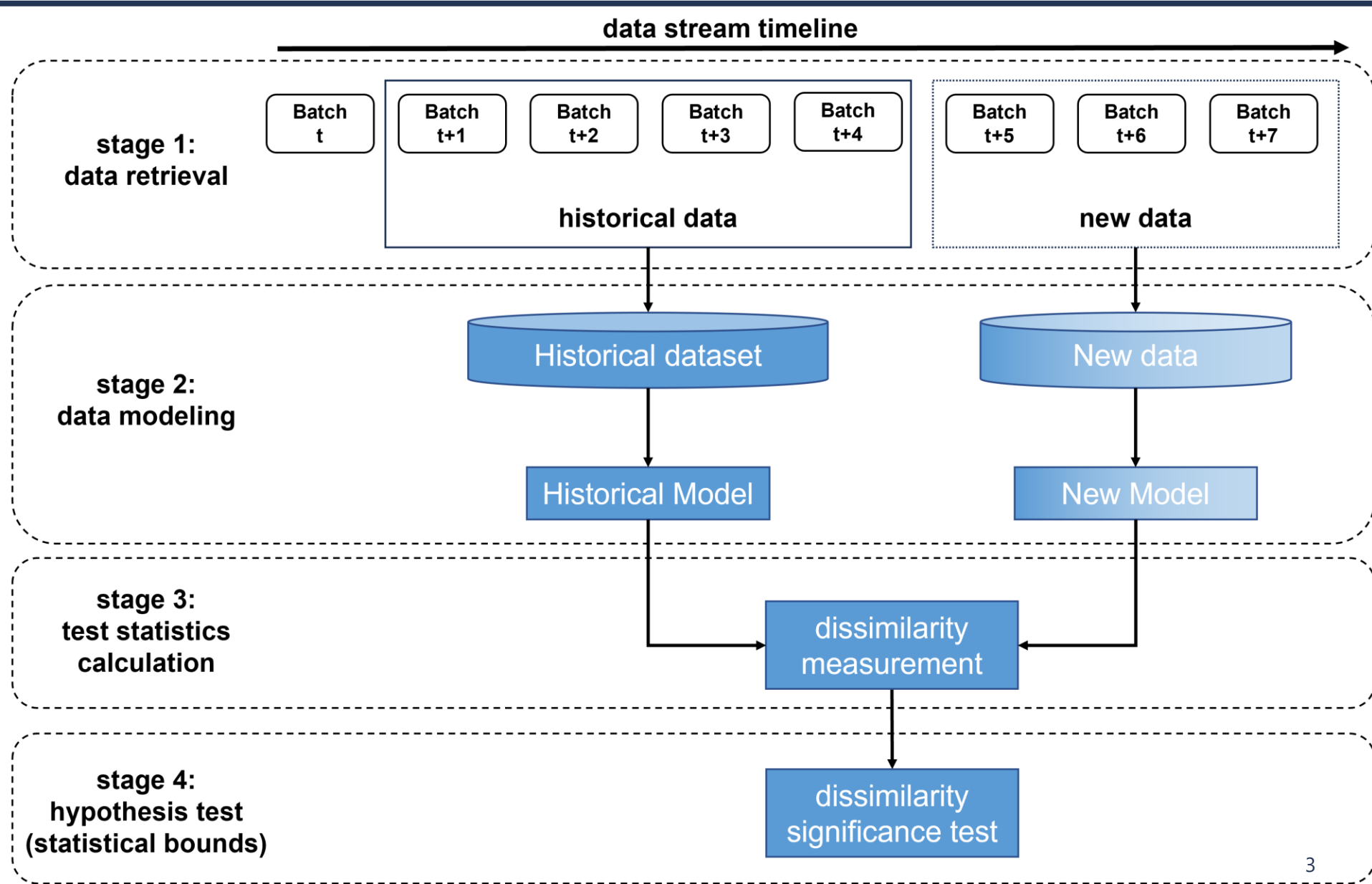
eogasawara@ieee.org

<https://eic.cefet-rj.br/~eogasawara>

Concept drift overview

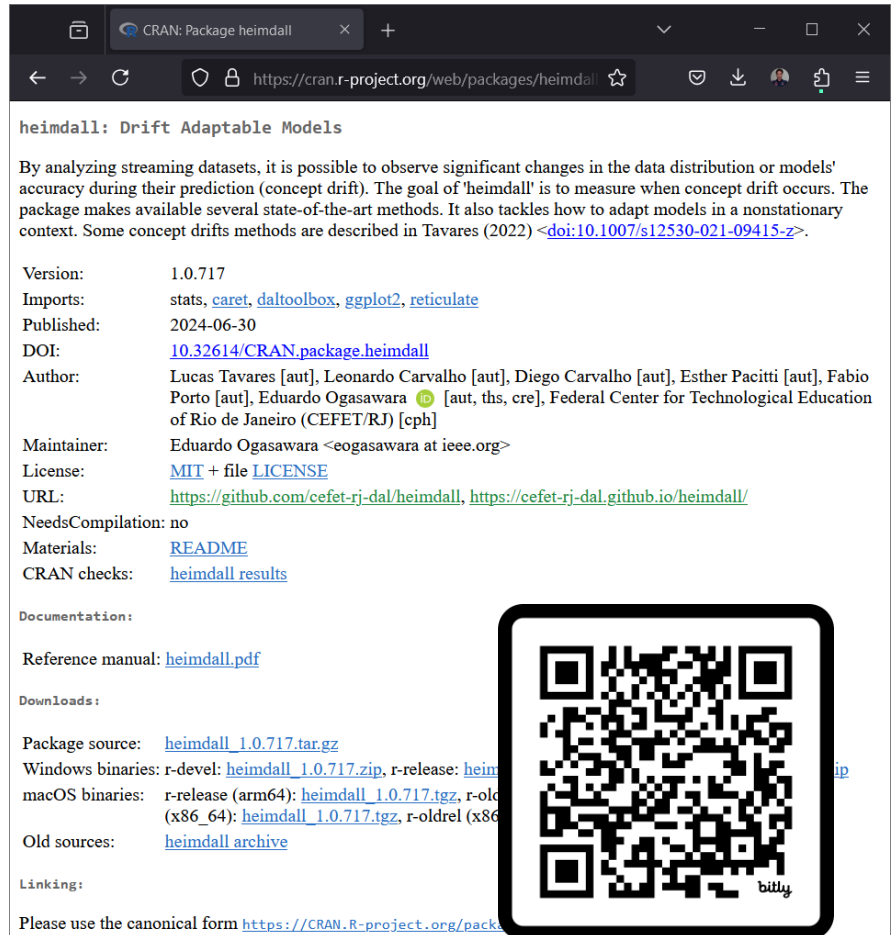


Detecting changes



Heimdall: Drift Adaptable Models

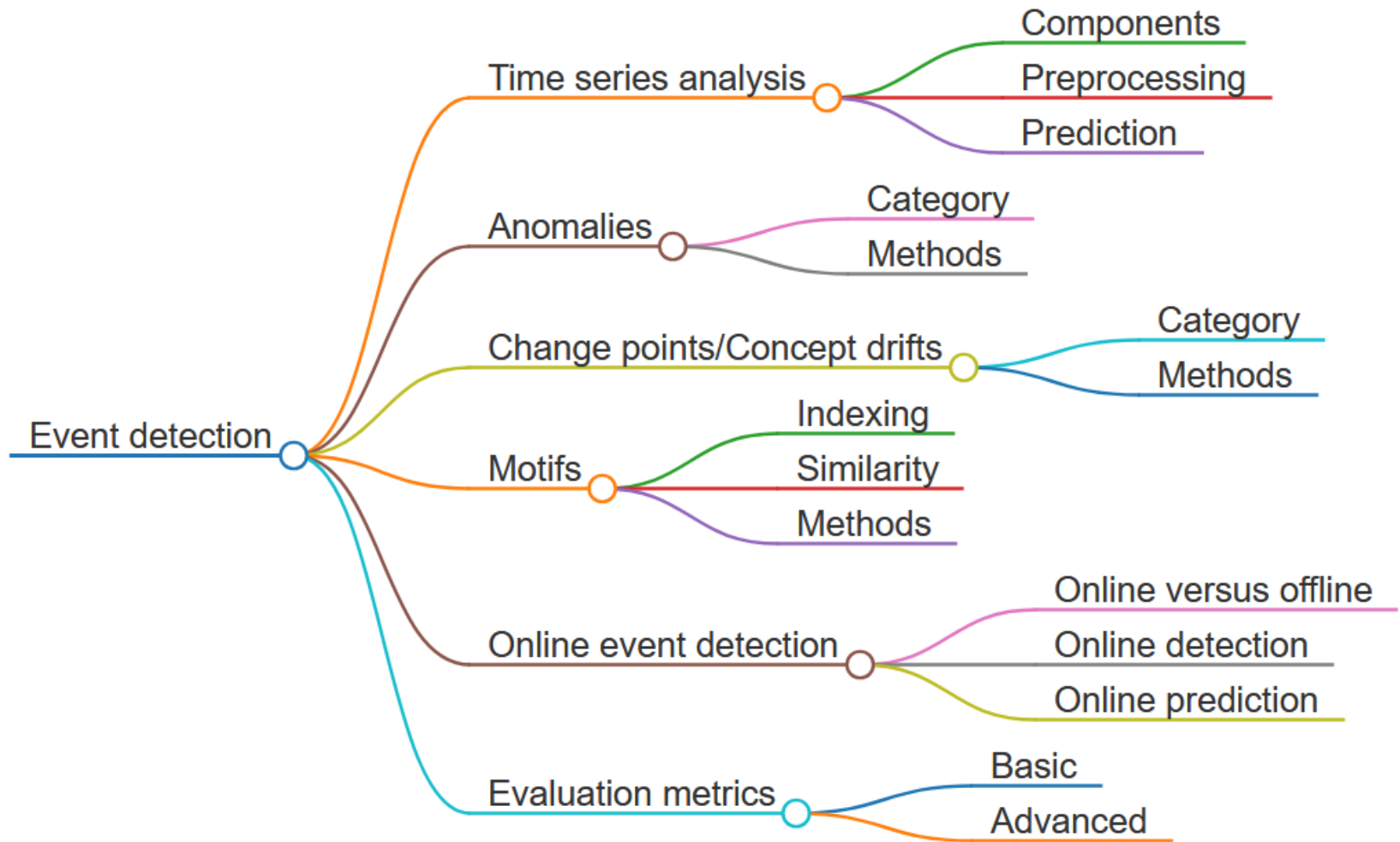
- Concept drift
 - Error-based methods
 - Distribution-based methods
 - Model manager explorer
- Properties
 - Uniform Data Model
 - Expansible
 - Based on Algebraic Experimental Line [1,2]
- Inspiration from Sci-Kit Learn
 - Fit()
 - Detection()
- More than ten event detectors
- R Package available at CRAN



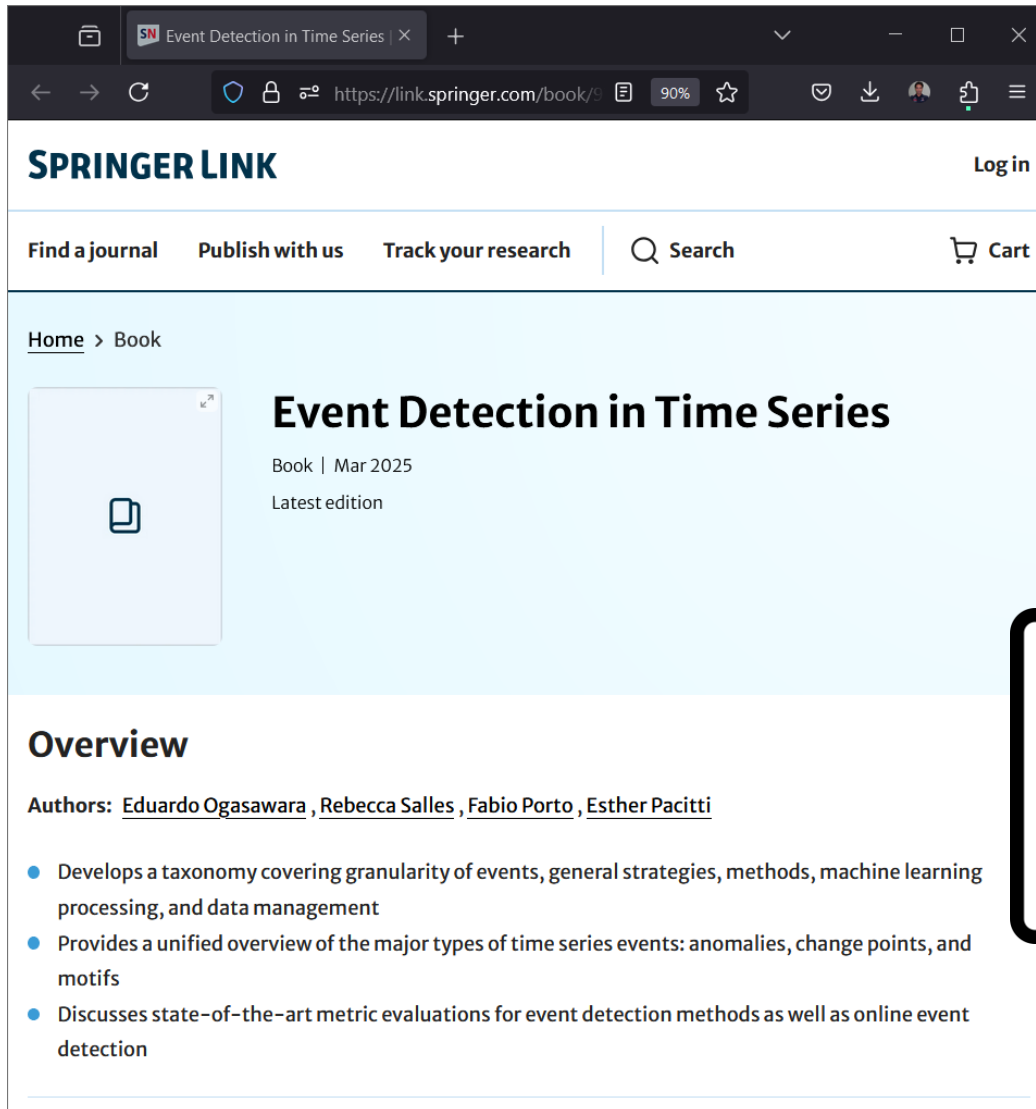
The screenshot shows the CRAN package page for 'heimdall'. The browser address bar displays 'https://cran.r-project.org/web/packages/heimdall/'. The page title is 'heimdall: Drift Adaptable Models'. The description states: 'By analyzing streaming datasets, it is possible to observe significant changes in the data distribution or models' accuracy during their prediction (concept drift). The goal of 'heimdall' is to measure when concept drift occurs. The package makes available several state-of-the-art methods. It also tackles how to adapt models in a nonstationary context. Some concept drifts methods are described in Tavares (2022) <doi:10.1007/s12530-021-09415-z>.' The package details include: Version: 1.0.717, Imports: stats, caret, dalttoolbox, ggplot2, reticulate, Published: 2024-06-30, DOI: 10.32614/CRAN.package.heimdall, Author: Lucas Tavares [aut], Leonardo Carvalho [aut], Diego Carvalho [aut], Esther Pacitti [aut], Fabio Porto [aut], Eduardo Ogasawara [aut, ths, cre], Federal Center for Technological Education of Rio de Janeiro (CEFET/RJ) [cph], Maintainer: Eduardo Ogasawara <eogasawara at ieee.org>, License: MIT + file LICENSE, URL: https://github.com/cefet-rj-dal/heimdall, https://cefet-rj-dal.github.io/heimdall/, NeedsCompilation: no, Materials: README, CRAN checks: heimdall results, Documentation: Reference manual: heimdall.pdf, Downloads: Package source: heimdall_1.0.717.tar.gz, Windows binaries: r-devel: heimdall_1.0.717.zip, r-release: heimdall_1.0.717.zip, macOS binaries: r-release (arm64): heimdall_1.0.717.tgz, r-oldrel (x86_64): heimdall_1.0.717.tgz, r-oldrel (x86_64): heimdall_1.0.717.tgz, Old sources: heimdall archive, Linking: Please use the canonical form https://CRAN.R-project.org/package=heimdall. A QR code is visible on the right side of the page.



The General Problem of Event Detection



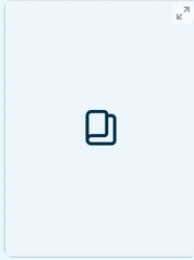
Event Detection in Time Series



SPRINGER LINK [Log in](#)

[Find a journal](#) [Publish with us](#) [Track your research](#) [Search](#) [Cart](#)

[Home](#) > [Book](#)

 **Event Detection in Time Series**

Book | Mar 2025
Latest edition

Overview

Authors: [Eduardo Ogasawara](#), [Rebecca Salles](#), [Fabio Porto](#), [Esther Pacitti](#)

- Develops a taxonomy covering granularity of events, general strategies, methods, machine learning processing, and data management
- Provides a unified overview of the major types of time series events: anomalies, change points, and motifs
- Discusses state-of-the-art metric evaluations for event detection methods as well as online event detection





CEFET/RJ



CONCEPT DRIFT (EVENT DETECTION)



LNCC

Eduardo Ogasawara

eogasawara@ieee.org

<https://eic.cefet-rj.br/~eogasawara>