

# Smart CAT

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# Smart CAT

## Smart Configurable Assessment Tool

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### What is Smart CAT?

Smart CAT is a stand-alone software tool that is based on the principles of the Stealth Assessment (SA) methodology. As such, it facilitates the application of easy and flexible data-driven assessments using machine learning (ML) algorithms. More specifically, it:

- (a) allows the use of numerical datasets
- (b) allows the easy arrangement of different statistical models
- (c) offers a wide range of built-in automated machine learning functions
- (d) includes automated built-in functions for validating and verifying assessment outputs.

To achieve this, Smart CAT offers a front-end software wizard for its users to interact with, while also a back-end software component that serves ML (and other automated) functions.

### Technical Specs

Smart CAT was developed in the C# programming language using the .NET framework. Among others it includes functions from the:

- o EPlus library
- o Accord.NET framework
- o R.NET framework

Being part of the RAGE project, it is part of the wider repository of software technology for serious games.

Download link:

<https://github.com/rageappliedgame/Smart-CAT>



## EASY AND FLEXIBLE ASSESSMENT IN 6 STEPS



(1) Start a new assessment



(2) Import a dataset (.xlsx spreadsheet)



(3) Configure one or more statistical models



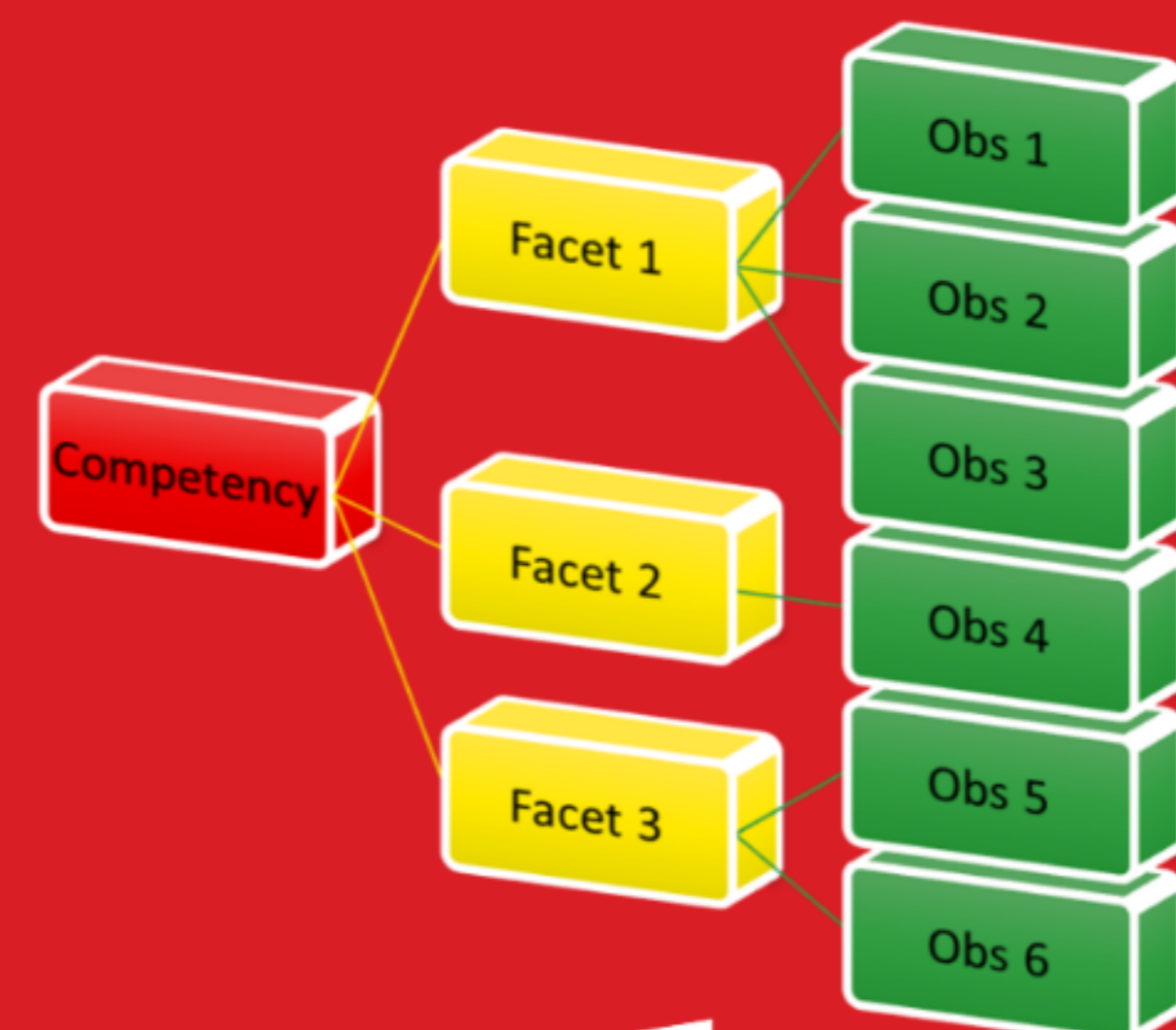
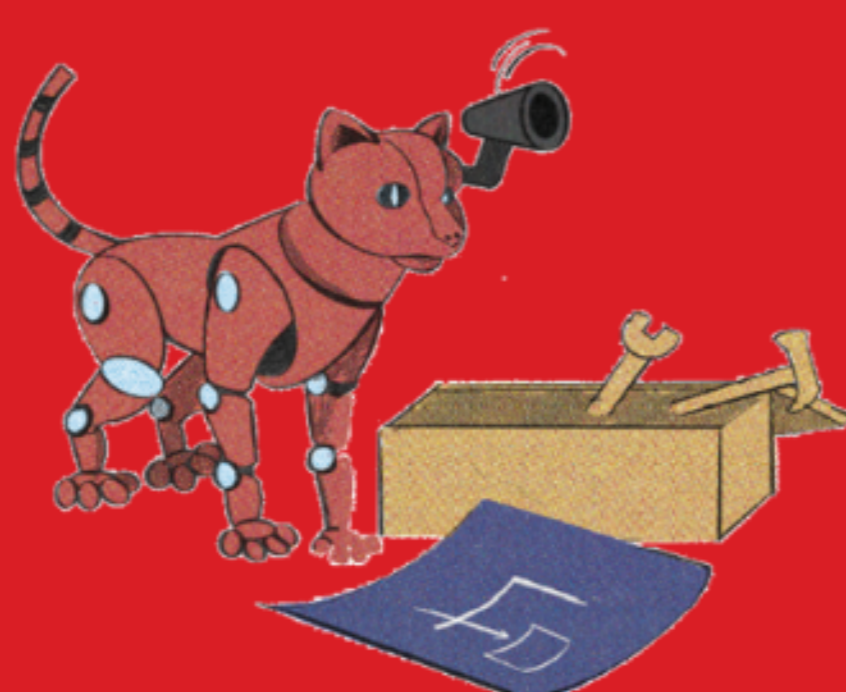
(4) Select and optimize a ML algorithm  
(Gaussian Naive Bayes Net or Decision Tree C4.5)



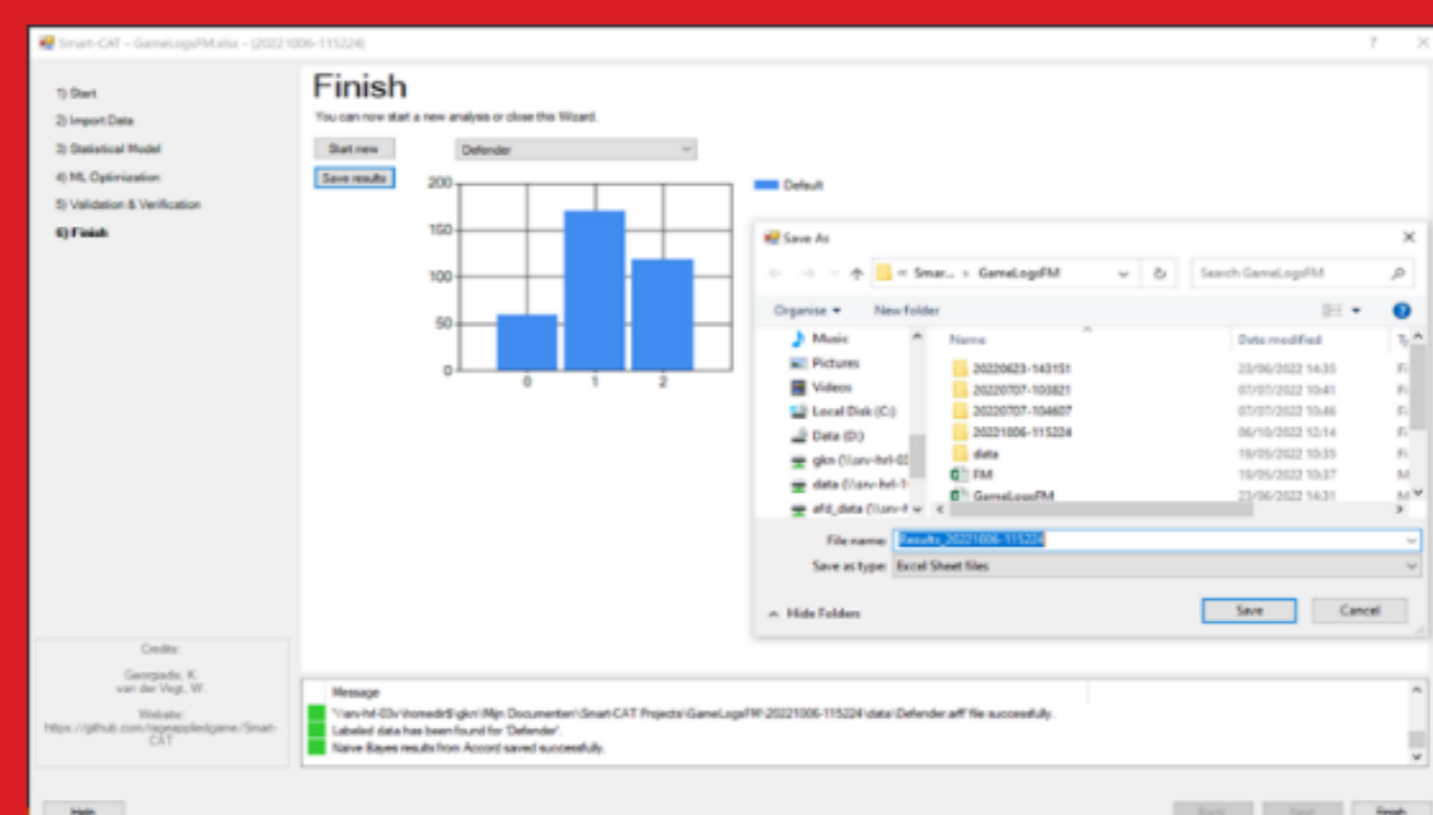
(5) Validate and Verify



(6) Export assessment output (.xlsx)



A view of a statistical model



A view of Smart CAT

Department of Online Learning and Instruction