

## SAMARITAN RELOADED

### RÉALISATION

NOPOZA973

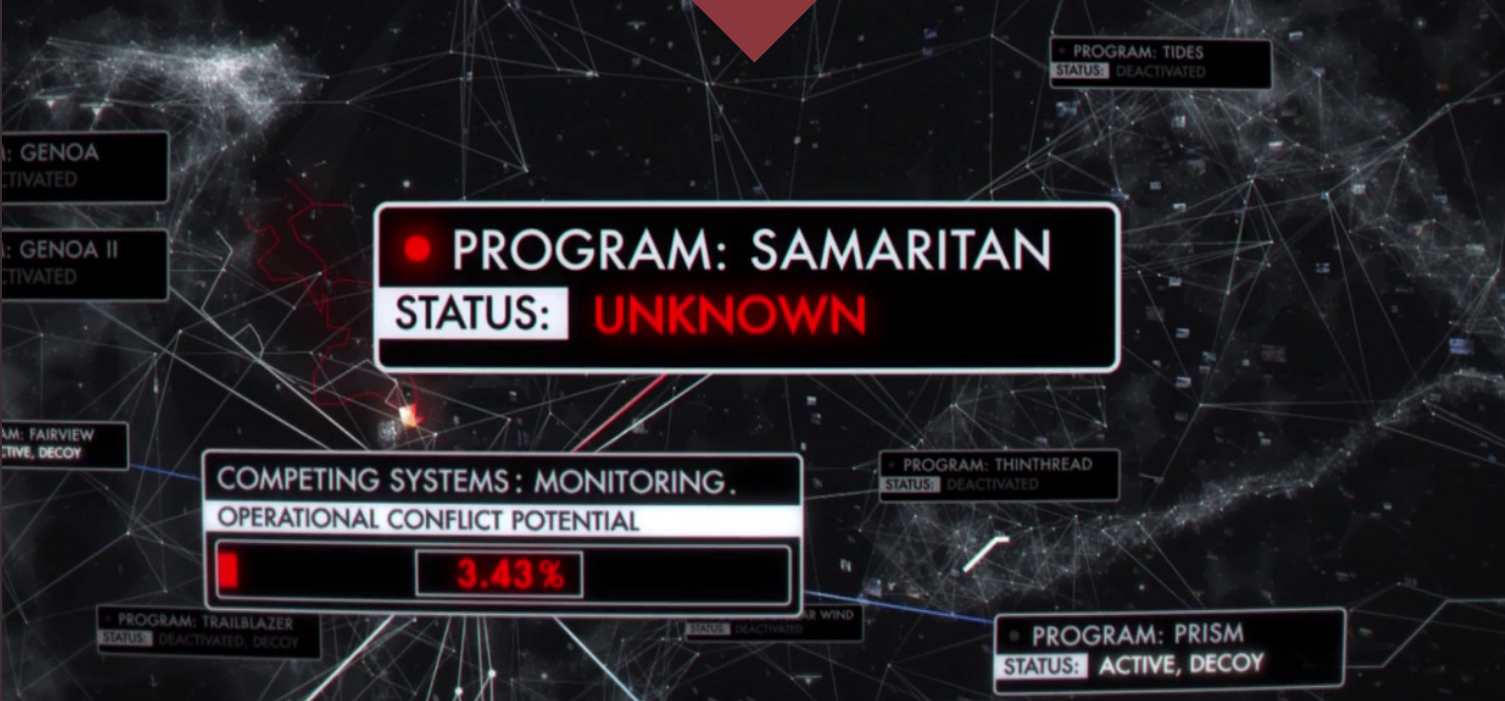
### TYPE

ANTI-CHEAT

### BUT

LISTER DES PISTES D'AMÉLIORATIONS

RÉALISÉ EN AOÛT 2016



● **PROGRAM: SAMARITAN**  
**STATUS: UNKNOWN**

COMPETING SYSTEMS : MONITORING .  
OPERATIONAL CONFLICT POTENTIAL

**3.43%**

PROGRAM: TIDES  
STATUS: DEACTIVATED

PROGRAM: GENOA  
STATUS: DEACTIVATED

PROGRAM: GENOA II  
STATUS: DEACTIVATED

PROGRAM: FAIRVIEW  
STATUS: ACTIVE, DECOY

PROGRAM: THINTHREAD  
STATUS: DEACTIVATED

PROGRAM: TRAILBLAZER  
STATUS: DEACTIVATED, DECOY

PROGRAM: PRISM  
STATUS: ACTIVE, DECOY



*You are being watched. The government has a secret system, a machine, that spies on you every hour of every day. I know, because I built it. I designed the machine to detect acts of terror, but it sees everything. Violent crimes involving ordinary people. People like you. Crimes the government considered irrelevant. They wouldn't act, so I decided I would. But I needed a partner, someone with the skills to intervene. Hunted by the authorities, we work in secret. You'll never find us. But, victim or perpetrator, if your number's up, we'll find you.*

Samaritan is an anticheat system with a super intelligence to act as a mass surveillance system and try to eradicate cheating.

Indeed, Samaritan can evolve from himself thanks to [Deep Learning](#) models. He continuously learns for better identification of new kind of cheat or hack client without any performance impact on your servers.

### **Goal**

The main goal is to provide a sustainable and easy way to protect players against cheater.

The second goal is to give us (you?) a try to learn this kind of concept (Machine Learning, BigData, etc ...) in a big production environment.

### **Technology**

Because of the project size, we have to use simultaneously various tech' !

- [Spark](#) : This, and more precisely [MLlib](#) seems to be the best for distributed computing applied to Machine Learning.
- [Hadoop YARN](#) : We have to manage Spark clustering and he seems to be a good fellow. (Or [ApacheMesos](#) or [AmazonEC2](#) ?).
- [Tensorflow](#) : It's an OpenSource library created by Google and that allows us to implement DeepLearning. Far better than his first public release. (Or [Theano](#) ?).

### **Java ? Scala ? Python ? Camel ? Cuda ? Quid of implementation ?**

Data treatment in Tensorflow is realised in Python or C++ (With [Anaconda](#) ?)

We do not have any GPU on our servers, so ... No [CUDA](#) support

The agent (or sensor) is a [EIP](#) Java-based [Camel](#) whose function is to redirect specific data flows at Spark driver. It should be in the form of a lambda Minecraft plugin running by a bukkit server.

### Why Tensorflow ?

While other ML Framework/Lib like Caffe seems to be more powerful, Tensorflow is the best start for our first DeepLearning project thanks to his heavy online documentation and tutorial.

### Liste de liens :

<http://libccv.org/doc/doc-convnet/>  
<https://code.google.com/p/cuda-convnet/>  
<http://caffe.berkeleyvision.org/>  
<https://github.com/deeplearning4j/deeplearning4j>  
<https://skymind.io/>  
<http://nd4j.org/>  
<http://www.nextplatform.com/2016/02/24/hadoop-spark-deep-learning-mesh-on-single-gpu-cluster/>  
<http://playground.tensorflow.org/>  
<https://www.college-de-france.fr/site/yann-lecun/seminar-2015-2016.htm>  
<https://www.youtube.com/watch?v=9DZrjBKoxOI>  
<https://www.nuget.org/packages/Hangfire.SqlServer.RabbitMQ/>  
<http://torch.ch/>  
<https://www.youtube.com/watch?v=sphFCJE1Hkl>  
<https://www.youtube.com/watch?v=86qlpX23PLs>  
<https://www.udacity.com/course/deep-learning--ud730>  
<https://aws.amazon.com/fr/lambda/details/>  
[http://deeplearning.net/software\\_links/](http://deeplearning.net/software_links/)  
<https://hypixel.net/threads/watchdog-roundup.749635/>  
<http://www.datasciencecentral.com/profiles/blogs/top-10-machine-learning-algorithms>  
<http://jmeter.apache.org/>  
<http://blog.xebia.fr/2016/03/04/apache-kafka-une-plateforme-centralisee-des-echanges-de-donnees/>  
<http://camel.apache.org/>  
<http://blog.soat.fr/2010/01/eip-quest-ce-que-cest/>  
<http://hn.premii.com/#/article/12239096>  
<http://hn.premii.com/#/article/12237998>  
[http://www.iclr.cc/doku.php?id=iclr2016%3Amain#accepted\\_papers\\_conference\\_track](http://www.iclr.cc/doku.php?id=iclr2016%3Amain#accepted_papers_conference_track)  
<http://deeplearning.net/tutorial/deeplearning.pdf>  
<http://www.cs.nyu.edu/~yann/talks/lecun-ranzato-icml2013.pdf>  
[https://docs.google.com/presentation/d/1UeKXVgRvvxg9OUdh\\_UiC-5G71UMscNPIvArsWER41PsU/](https://docs.google.com/presentation/d/1UeKXVgRvvxg9OUdh_UiC-5G71UMscNPIvArsWER41PsU/)  
<http://arxiv.org/pdf/1408.5093.pdf>