# VERTIGO

## Variability-intensive intElligent softwaRe Testing and analysIs research Group

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UNIVERSITÉ DE NAMUR
FACULTÉ D'INFORMATIQUE

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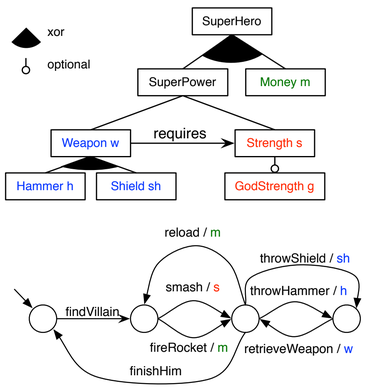
### Testing & Analysis Challenges

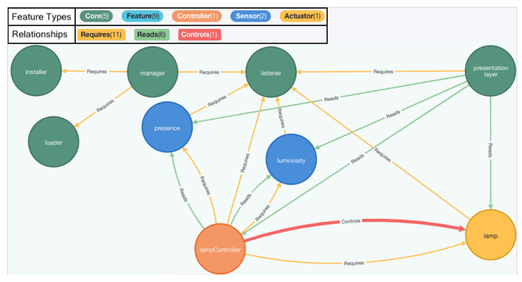
**Variability**

**Unpredictability**

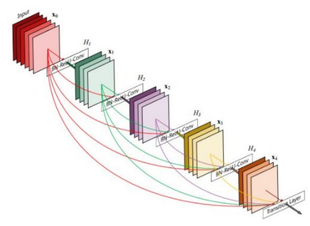
## Team & Research Themes



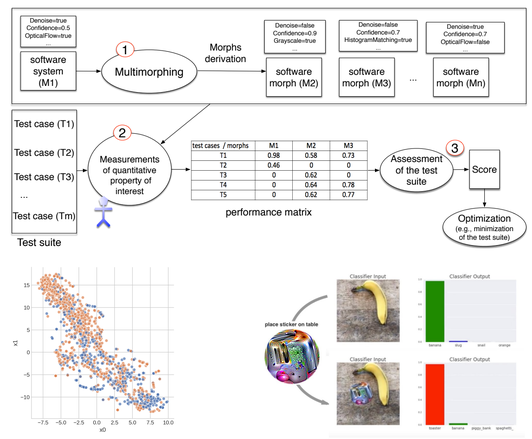

***Sophie Fortz***
(PhD Student, FRIA)
Learning Featured Transition Systems




***Edilton Lima Dos Santos***
(PhD Student, CERUNA)
Architectural Smells & Testing Adaptive Systems



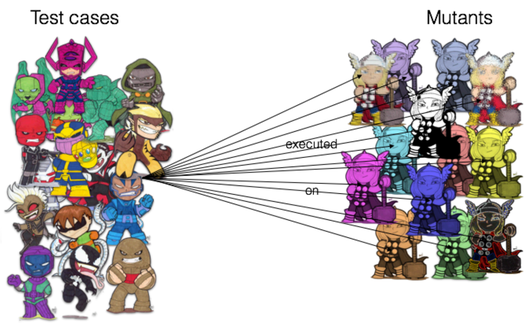
***Antoine Gratia***
(PhD Student, ARIAC)
Smart and Sustainable Synthesis of Neural Network Architectures



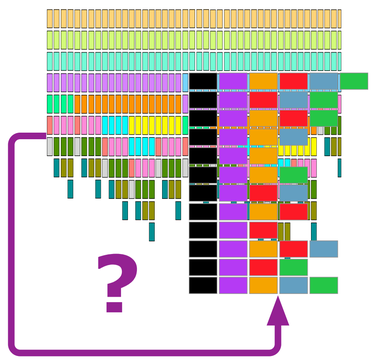

***Dr. Paul Temple***
(Postdoc, EOS /CERUNA)
Performance Testing, Adversarial Machine Learning, Fairness

### Evolutionary Testing

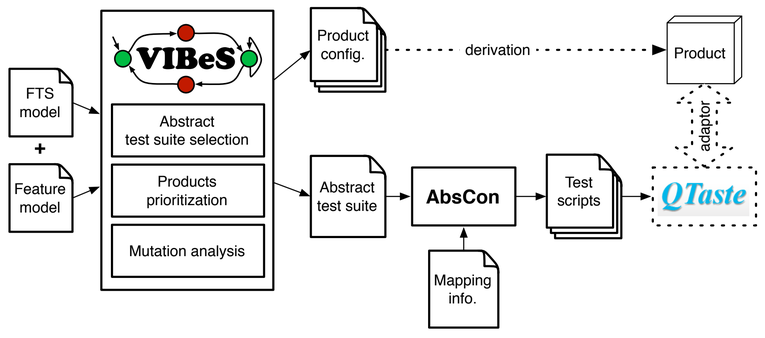
### Mutation Testing




### Configuration Learning & Sampling




### Model-based Testing Framework




## Partners

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Cetic Your Connection to ICT Research

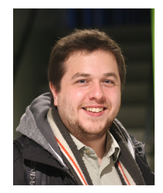
## Projects

EOS THE EXCELLENCE OF SCIENCE
IDEES
CAPES
Wallonie service public SPW
TRAIL TRUSTED AI LABS

## Collaborators

Prof. Frenay

Prof. Heymans


Prof. Devroey

Prof. Schobbens

## Selected Contributions


Sophie Fortz, Paul Temple, Xavier Devroey, Patrick Heymans and Gilles Perrouin, ***VaryMinions: Leveraging RNNs to Identify Variants in Events Logs***, 5th International Workshop on Machine Learning Techniques for Software Quality Evolution @ Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering, 2021.

Edilton Lima Dos Santos, Sophie Fortz, Gilles Perrouin and Pierre-Yves Schobbens, ***A Vision to identify Architectural Smells in Self-Adaptive Systems using Behavioral Maps***, 4th Context-aware, Autonomous and Smart Architecture Workshop @European Conference on Software Architecture, 2021.

Pieter Delobelle, Paul Temple, Gilles Perrouin, Benoit Frénay, Patrick Heymans, and Bettina Berendt, ***Ethical Adversaries: Towards Mitigating Unfairness with Adversarial Machine Learning***, ACM SIGKDD Explorations Newsletter. 23, 1 (June 2021), 32–41.

Paul Temple, Gilles Perrouin, Mathieu Acher, Battista Biggio, Jean-Marc Jézéquel, and Fabio Roli, ***Empirical assessment of generating adversarial configurations for software product lines,*** Empirical Software Engineering, 26(6), 2021, Springer.

Pouria Derakhshanfar, Xavier Devroey, Gilles Perrouin, Andy Zaidman and Arie van Deursen. ***Search-based Crash Reproduction using Behavioral Model Seeding.*** Software Testing Verification and Reliability. 30:e1733, 2020, Wiley.



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