Master Thesis Themes
2023- 2024

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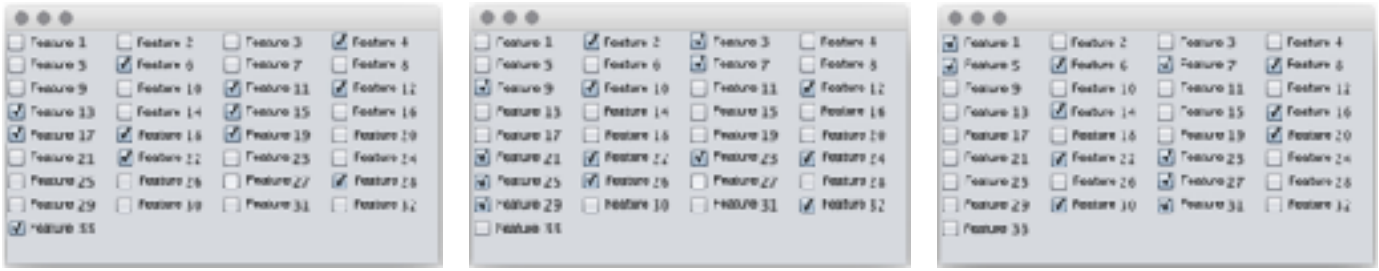
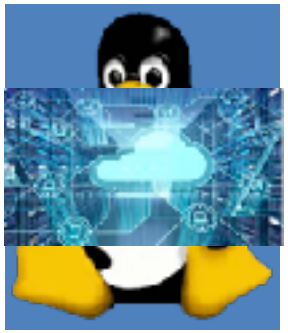
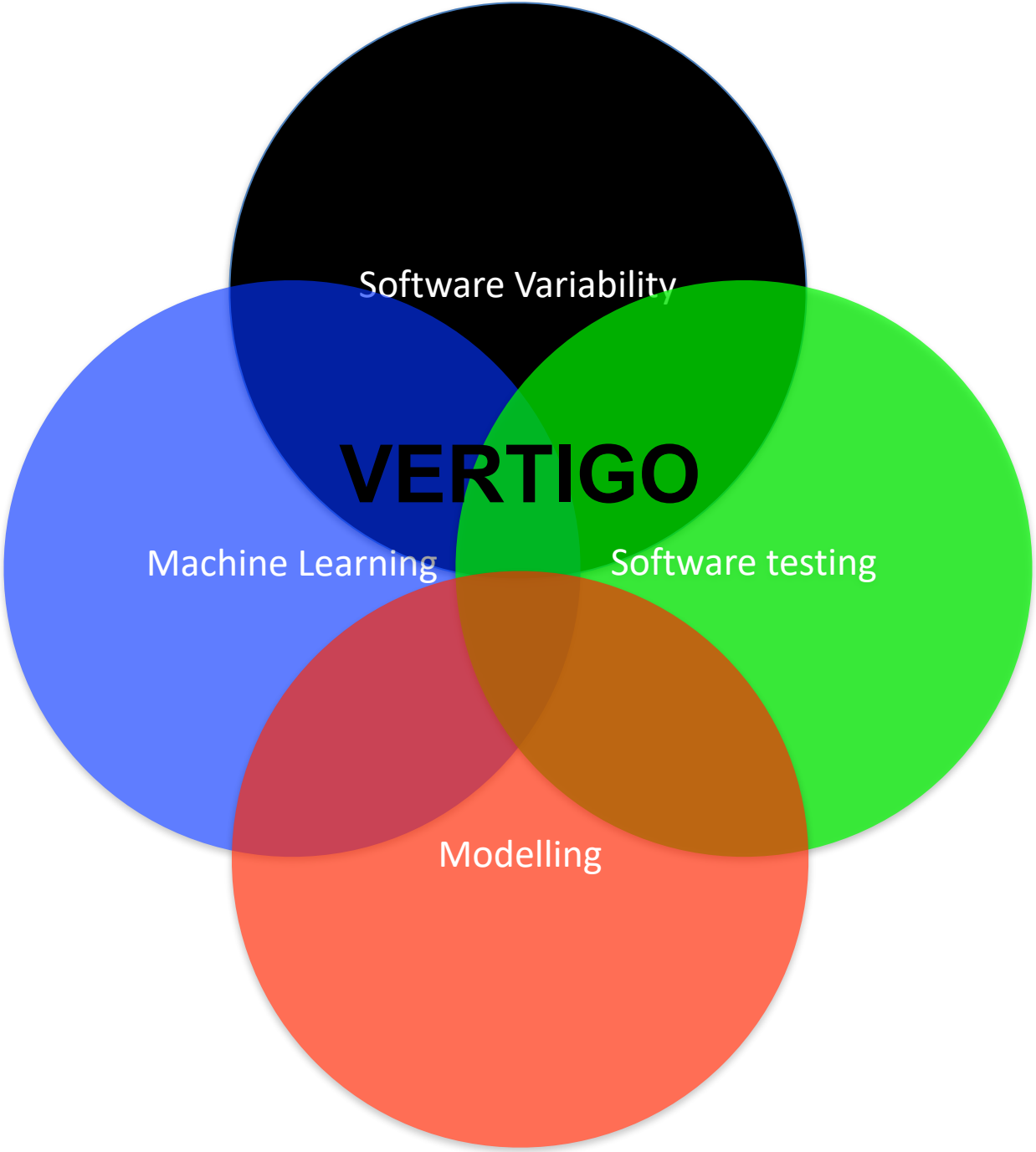
Variability-Intensive Systems





Variant 1 | Variant 2 | … | Variant N

Real-World Applications:

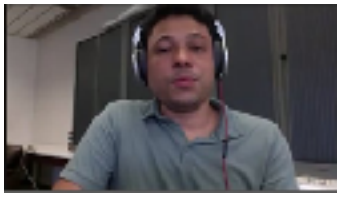

Software Variability
VERTIGO
Machine Learning
Software testing
Modelling

VERTIGO Members

Faculty, Lab Head

Dr. Gilles Perrouin

Postdoc



Edilton Lima Dos Santos (2024)

PhD Students

Antoine Gratia (2021-)

Alix Decrop (2023-)

Research Themes

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Themes (I)

Security Testing: Vulnerability injection, mutation testing, test generation, etc.

AI-driven Software Engineering: Use of ChatGPT to discover specifications for APIs and derive tests

Performance testing for Variability Intensive Systems: Using machine learning to predict quality attributes of software configurations

Software Fairness: Use of software testing and ML to expose fairness issues in software

Themes (II)

Green AI: Reducing deep learning environmental impact by sampling training data, improving training or looking for more efficient tradeoffs

Novel data augmentation techniques: using generative AI (e.g., stable diffusion) to generate data for domains when it is expensive to obtain (physics simulation, etc.)

Data Distillation: Use of distillation techniques to produce smaller datasets for ML training

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Recent Supervisions

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Selected Recently Supervised Theses

Alix Decrop: Leveraging Large Language Models to Automatically Infer RESTful API Specifications (2023), https://researchportal.unamur.be/en/studentTheses/leveraging-large-language-models-to-automatically-infer-restful-a

Benjamin Petit: Automatic vulnerability injection using Natural Language Processing (2022), https://researchportal.unamur.be/en/studentTheses/automatic-vulnerability-injection-using-natural-language-processi

Collaborations

Université de Rennes

LIÈGE université

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