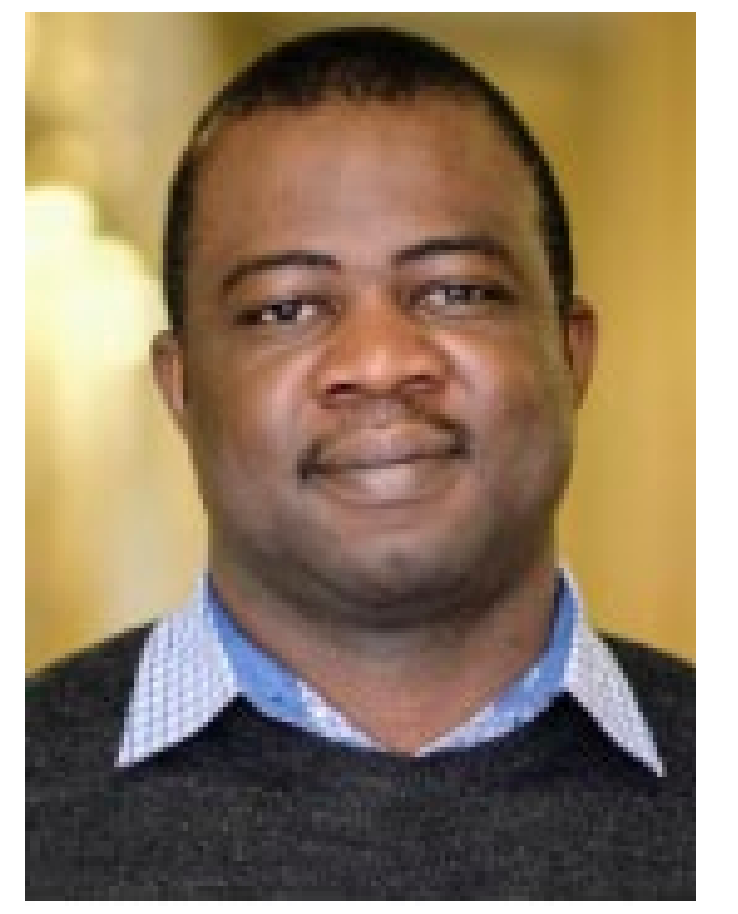


# FMitF: Track II

## Cross-Language Support for Runtime Verification



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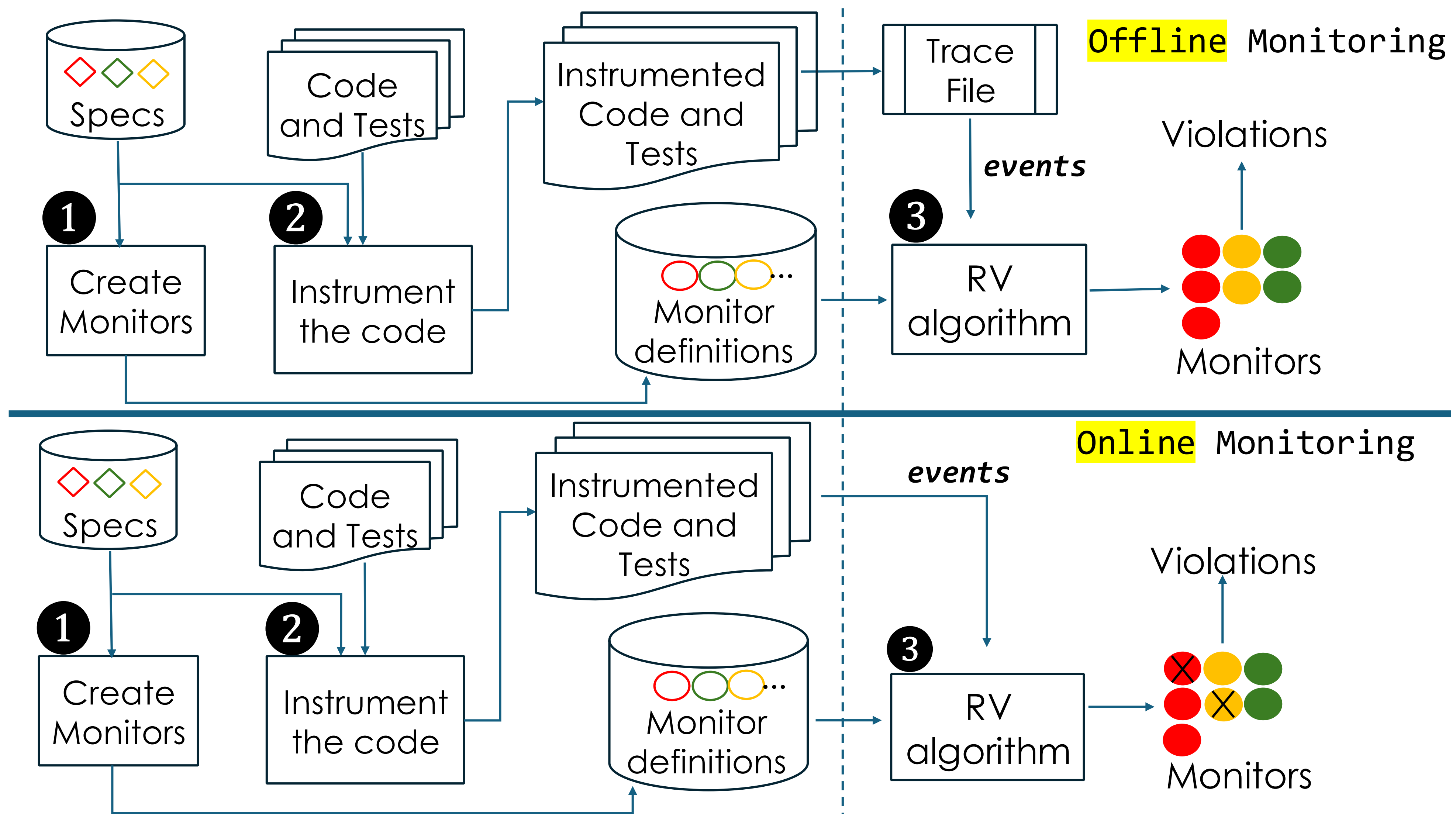
**Problem:** Runtime Verification (RV) is not widely used by developers.

It is difficult for developers:

- (1) to learn specification languages and
- (2) to write RV tools for new(er) programming languages (e.g., Python, Go, etc.)

Solutions:

- (A) Developer-friendly specification format
- (B) Cross-Language RV: reuse components from existing tools to enable faster development of RV tools for new(er) languages



### Broader Impacts

- Developed a new RV framework for Python (PyMOP)
  - RV framework for Go is also in early-stage development
- Wrote 50+ formal specs for Python language and popular libraries
- Reported 13 bugs (including one in Python itself!)
- Students involved: 1 PhD student, 1 MS student, and 1 undergrad
- We plan to use PyMOP in classes at NC State and Cornell
- Paper on PyMOP is in preparation



OpenMOP