

# BF-Based ML/AI Systems for Formal Hardware & Software Vulnerability Specification

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**Bugs Framework (BF)**  
<https://usnistgov.github.io/BF>

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## Motivation

- Vulnerability exploits – primary attack vector
- Need for automated bug identification, vulnerability detection, and analysis

## Objective

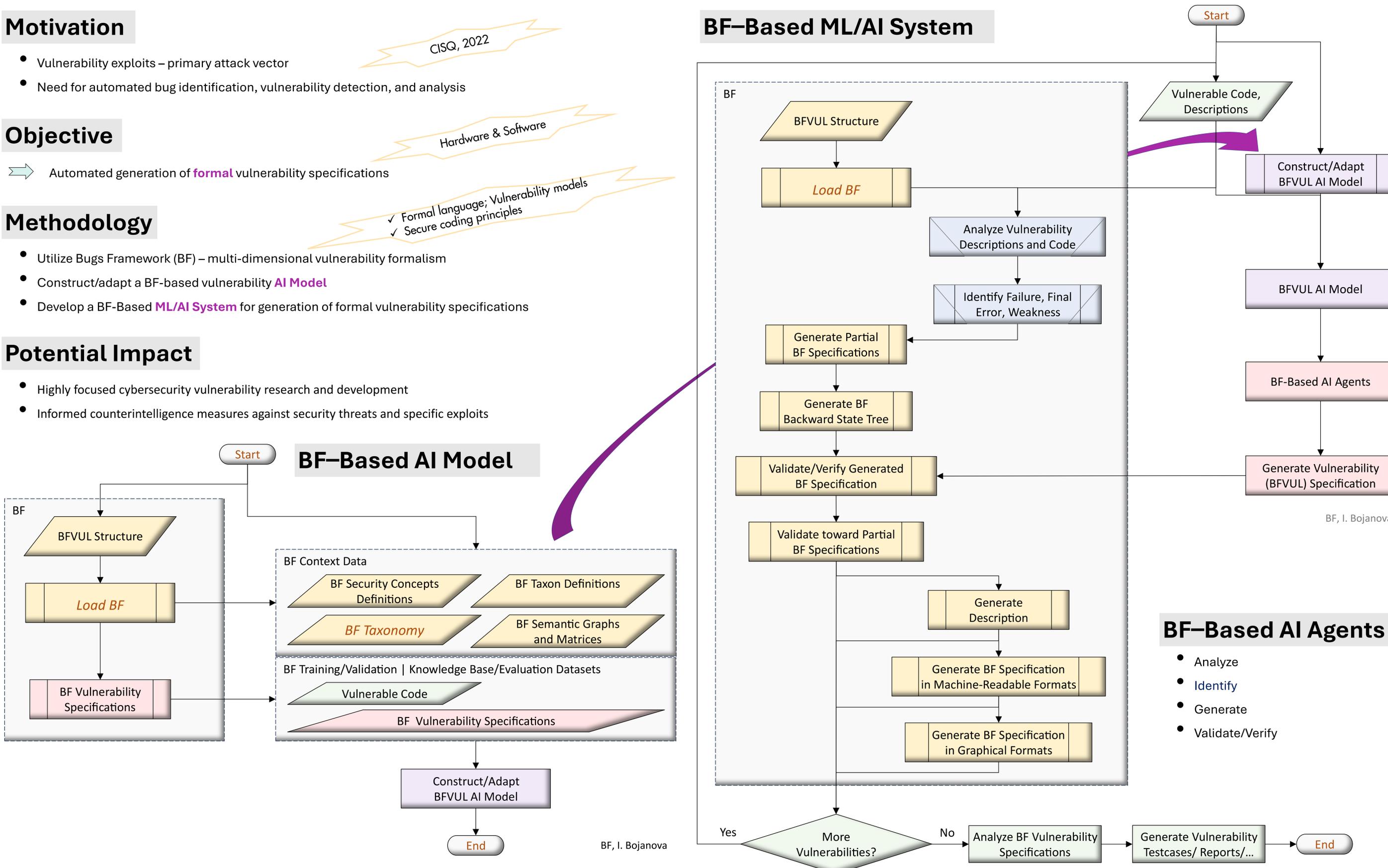
➔ Automated generation of **formal** vulnerability specifications

## Methodology

- Utilize Bugs Framework (BF) – multi-dimensional vulnerability formalism
- Construct/adapt a BF-based vulnerability **AI Model**
- Develop a BF-Based **ML/AI System** for generation of formal vulnerability specifications

## Potential Impact

- Highly focused cybersecurity vulnerability research and development
- Informed counterintelligence measures against security threats and specific exploits



CISQ, 2022

Hardware & Software

✓ Formal language; Vulnerability models  
✓ Secure coding principles

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