



Kestrel Technology LLC

Lead Investigator: Henny Sipma

Team Members:

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Research Areas of Interest

- High precision testing of source code using static analysis
 - Using Abstract Interpretation Technology
 - Achieving scalability and precision with “sound” analysis
- High precision identification of cybersecurity vulnerabilities
 - Programming Language Errors that create vulnerabilities
 - Information Flow Errors that create vulnerabilities
- Dynamic testing of application software via trace analysis



Unique Qualifications and Capabilities

Have developed a high precision generator of “sound” static code analyzers – called “CodeHawk”

- Initially developed and proven on NASA space missions
- New generic design for high scalability and high precision
 - Analyzes all software execution paths
 - Uses multiple domains to generate invariants
 - Provides mathematical proof for every safe / error instance
 - Generates minimal false positives
- Lab tests show near perfect precision in identification of buffer overflow errors in “real world” open source code
 - 100% identification of errors in NIST small benchmarks
 - Found Level 10 severe error in NIST BIND benchmark
 - 97% of errors identified in private cybersecurity benchmark



Type of research group we seek to join

- Open to any type of teaming arrangements
- We offer an automated customizable tool:
 - tunable for the application
 - tunable for the vulnerability of interest
 - identifies code locations/regions containing specified vulnerabilities with high precision
 - few or no false negatives
 - scalable
- Have extensive experience in government contracting
 - DCAA approved rates and methodology



Contact Information

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