Honeywell

- POC
  - Dr. Kirk Schloegel
    - Vulnerability detection, generation of vulnerability-covering code
    - Automated analysis & transformation of network security policies
    - Graph-based data mining, co-developer of ParMETIS graph partitioning package
- Other Team Members
  - Dr. Devesh Bhatt
    - Vulnerability flow analysis
    - Comprehensive analysis of behavioral models (range bounds determination, design conflicts detection, correctness, robustness, etc.)

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Research Interests

- Vulnerability detection from source code or behavioral models
  - Using both static and dynamic analyses
- Auto-generation of vulnerability-covering code
- Vulnerability-aware security monitoring

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Unique Capabilities

- Honeywell Integrated Lifecycle Tools and Environment (HiLiTE)
  - Performs comprehensive model analysis including:
    - end-to-end type/range propagation to determine upper bounds
    - interval prediction
    - constraint-checking
    - design robustness checking for potential glitches and exception situations (e.g., overflow)
  - Generates test cases to verify that implementation code conforms to low-level functional and robustness requirements (patents)
  - Multi-generation of functionally-equivalent code (patent)
  - Enables affordable DO-178B certification
- Scyllarus for scalable state estimation of networks
  - Uses Dynamic Evidence Aggregator to combine results of multiple intrusion detectors to reduce false alarm rate and response time (patents)
  - Developed under DARPA Argus project, part of Cyber Panel program
  - Out-performed all competitors in the DARPA Cyber Panel Dem/Val Exercise in combined attack-recognition

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- Honeywell is seeking to join a team in order to provide support in:
  - Vulnerability detection, and/or
  - Generation of vulnerability-covering code

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Contact Information

- Dr. Kirk Schloegel
- Senior Scientist
- Honeywell International
- kirk.schloegel@honeywell.com
- 763-954-6796