

## **FINAL REPORT:**

### **Supporting development of highly dependable software through continuous, automated, in-process, and individualized software measurement validation**

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## **1 Summary of Research**

The general objective of this research project was to design, implement, and validate software measures within a development infrastructure that supports the development of highly dependable software systems. Contributions of this research project included: (a) development of a specialized configuration of Hackystat to automatically acquire build and workflow data from the configuration management system for the Mission Data System (MDS) project at Jet Propulsion Laboratory; (b) development of analyses over MDS build and workflow data to support identification of potential bottlenecks and process validation; (c) identification of previous unknown variation within the MDS development process; (d) development of a generalized approach to in-process, continuous measurement validation called Software Project Telemetry, (e) substantial enhancements to the open source Hackystat framework, improving its generality and usability; (f) development of undergraduate and graduate software engineering curriculum involving the use of Hackystat for automated software engineering metrics collection and analysis; (g) support for 3 Ph.D., 6 M.S., and 3 B.S. degree students.

The key publications resulting from this grant are listed in the “References” section below.

## **2 Subject Inventions**

None.

## **References**

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