Data Management Plan

Data Generated

The proposed project will produce data in the form of source code, measurement results, formal specifications and proofs, published papers, and technical reports. The source code developed in this project will consist chiefly of the tools described in the project narrative, as well as application benchmarks for evaluating the developed verification techniques. The source code, formal specifica-tion, and proofs will be in various languages: C, C++, OCaml, Coq, and custom languages that the PIs develop and document. The measurement results will be text files consisting of experimental logs, gathered by benchmarking logic inside the developed tools. This project will not involve the acquisition of either animal or human subjects' data.

Availability of Data

During the period of research, all code and documentation will be kept under version control using freely available tools, and the repository backed up or mirrored to ensure redundancy.

Data resulting from this research will be made widely available to other researchers. New software and modifications to software that comprise the multi-scale object implementation and toolchain will be managed and maintained according to the open standards. Data related to the implementation of practical tools along with documentation will be made available to other researchers under an open-source license. Documentation of theoretical developments will either be published or presented in a peer-reviewed forum, or made available online and put in the public domain. The software, data, and documents will be made public through public GitHub repositories and websites hosted by Yale University.

Data Management

The faculty, researchers, and students in the Department of Computer Science have access to a wide variety of ever-changing state-of-the-art computing resources, ranging from laptops, conventional PCs and scientific workstations to high-powered compute-servers and workstation clusters used as parallel computers.

The Computer Science department routinely performs data backup to prevent against loss of data and ensure all research artifacts are properly archived. Yale University ITS offers hosting and administration in a wide variety of reliable, secure, and cost-effective solutions. Yale ITS offers cloud-based, virtual, and data center solutions. This includes hosting for computing and storage systems in a secure, scalable, and environmentally controlled space in a Yale Data Center with redundant facilities and resilient technologies. The Yale ITS private cloud is based on redundant, highly reliable infrastructure with replicated storage and load and performance management.

The Department maintains a website, www.cs.yale.edu, which is directly accessible by mem-bers of our community for authoring web content or for sharing data of any kind.

In accordance with NSF requirements, archived data will be maintained on these storage systems for a minimum of 3 years after the project ends in the event that the PIs are called upon to share or otherwise produce the data.