Bachelor’s Thesis
Understanding the Effects of Dockerization in Performance Benchmarking

Context & Problem
Cloud service benchmarking typically involves handling a number of systems – ranging from benchmarking systems to the system under test – across a large number of experiments. Container-based deployments, e.g., based on Docker, naturally lend themselves to such a use case. However, while a number of researchers is already using Docker as runtime environment for both benchmarking tools and system under test, whether this Dockerization affects benchmarking results is still unknown.

Approach
Intuitively, Dockerization is unlikely to have a significant impact on results. However, this is mere speculation and the mantra behind cloud service benchmarking is “don’t make assumptions, make experiments”. This thesis shall, therefore, analyze whether dockerization of benchmarking tool, system under test, or both affects benchmark results. After first defining an approach for measuring potential impacts, esp. on performance, this thesis shall run a number of experiments on cloud resources to better understand such impacts.

Recommended skills:
Knowledge of benchmarking and Docker

Contact: Dr. David Bermbach
db@ise.tu-berlin.de

Our Mission:
Our lectures cover fundamental methods and techniques in the areas of service computing, cloud computing, and enterprise computing. We like to engage students in hands-on building of distributed information systems and to take an interdisciplinary approach to evaluating such systems. Through a close mentoring of students, especially in our seminars, we aim to introduce students to our ongoing research and to excite them to do future studies and research with us.