Preserving source code in Software Heritage: a foundation for reproducibility

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Abstract

Software is, together with articles and data, a key ingredient of academic research, in all fields, hence preservation of, and access to the source code of computer programs is a pillar of Open Science, and a necessary step to understand, verify, adapt and reuse the tools that we produce and use in the scholarly world.

We have at our hand a very large choice of platforms and repositories to develop collaboratively and share source code, but they fall short when it comes to support reproducibility in the long term.

In this talk, we will present Software Heritage, a universal long term archive specifically designed for software source code that provides intrinsic identifiers for all the artifacts it stores, at all granularities, down to the level of the line of code.

Though live demos, we will see how Software Heritage provides a foundation for reproducibility, and how easy it is to leverage it in academic work.

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