

# The CakeML Verified Compiler and Toolchain (Invited Talk)

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## **Abstract.**

The CakeML project has built an ecosystem of proofs and tools around an ML dialect called CakeML. The ecosystem includes a proven-correct compiler that can bootstrap itself within the logic of an interactive theorem prover (HOL4).

In this talk, I will give an overview of the entire ecosystem; I will show how HOL4 provides an architecture that scales to such large developments; and I will explain where and how the CakeML project uses proof automation. The talk will conclude with a discuss of where I believe CakeML would gain most from improved proof automation.

For more: <https://cakeml.org/>