

LLM-Driven Fuzzing

Automatic Harness Generation for Crypto Libraries

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July, 2025

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Preface

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1 Introduction

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1.1 Neurosymbolic AI

Listing 1.1 A simple function that does something interesting if it receives the input “HI!”.

```
cat << EOF > test_fuzzer.cc
#include <stdint.h>
#include <stddef.h>
extern "C" int LLVMFuzzerTestOneInput(const uint8_t *data, size_t size) {
    if (size > 0 && data[0] == 'H')
        if (size > 1 && data[1] == 'I')
            if (size > 2 && data[2] == '!')
                __builtin_trap();
    return 0;
}
EOF
# Build test_fuzzer.cc with asan and link against libFuzzer.
clang++ -fsanitize=address,fuzzer test_fuzzer.cc
# Run the fuzzer with no corpus.
./a.out
```

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¹testing footnotes

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1.2 Large Language Models (LLMs)

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