Research Experience and Interests

Luca Palumbo

IMDEA Software – Internship Application

Technical Background & Interests

- ▶ BSc in Physics; strong analytical and problem solving skills
- ▶ MSc in Computer Science (currently); strong interest in systems security
- ▶ Experience with:
  - ▶ Binary exploitation (BOF, ROP, format strings, mitigation bypass)
  - ▶ Reverse engineering using Ghidra, IDA, gdb, Frida
  - ▶ Linux OS internals and ELF binaries
  - ▶ Low-level programming in C/C++ and assembly

Relevant Experience (Pre-Research)

- University tutoring in cybersecurity:
  - Taught binary exploitation and reverse engineering via CTF challenges
  - Explaining low-level security concepts
- Active participation in CTF competitions
  - with Fibonhack team
  - Focus on reverse engineering and pwn challenge
  - Author of CTF challenges for some CTFs: Internet festival CTF (Pisa, Italy), Romhack CTF (Rome, Italy)

Research Interests & Motivation

- ▶ Interest in binary analysis frameworks and security-oriented tool building
- ▶ Analysis of untrusted or unknown-provenance binaries
- ▶ Research at the intersection of:
    - ▶ Operating systems
    - ▶ Program analysis
    - ▶ Malware and binary analysis
- ▶ Motivation to transition from challenge-based problem solving to systems security research with real-world impact