

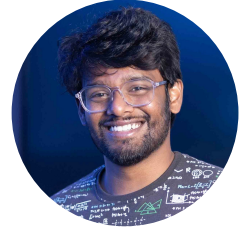
SRITEJA KUMMITA

Ph.D Candidate

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Experience

Ph.D Candidate

Paderborn University

📅 July 2025 – Ongoing

📍 Paderborn, Germany

- Researching on methods that help **fuzzing** practitioners in understanding and evaluating fuzzing [1].
- Researching on extended metrics about fuzzing internals and using **visualization solutions** to help practitioners in understand fuzzing [2][3].
- Working with **fuzzing**, **static analysis** and **dynamic symbolic execution** and investigating on how to effectively combine them.
- Supervision of master's students.

Research Associate

Fraunhofer IEM

📅 Nov 2020 – June 2025

📍 Paderborn, Germany

- Worked on projects that develop hybrid testing tools by combining **fuzzing**, **static analysis** and **dynamic symbolic execution**.

Projects

IntelliSecTest

- Developed a hybrid testing tool combining static analysis and fuzzing to analyze C/C++ software and report only true vulnerabilities along with a proof (an executable test case that triggers the vulnerability).
- Implemented a highly precise static analysis that can help in directing a fuzzer to reach potential memory access vulnerabilities (use-after-free, buffer-overread, etc).
- The hybrid tool is developed using Kubernetes, Docker, REST API, and RabbitMQ to support scalability and extensibility.

Whitebox Penetration Testing

- Developed static analysis engine that can direct a fuzzer towards vulnerable program locations.
- The engine extracts program slices for each vulnerable path and uses Z3 constraint solver to verify the path feasibility at runtime.
- A fuzzer can use the reported path constraints or vulnerable path information and reach the program locations.

Student Assitant

Fraunhofer IEM

📅 Aug 2018 – Oct 2020

📍 Paderborn, Germany

- Contributions to CogniCrypt crypto-analysis framework.
- Worked on maintenance and development of cryptographic rules in CrySL domain-specific language for Java cryptographic APIs such as BouncyCastle.

Software Engineer

GAIN Credit

📅 Jun 2015 – Feb 2018

📍 Chennai, India

- Development and maintenance to the product, *Lendingstream*.

Research Focus

Fuzzing

Static Analysis

Visualization Analysis

Relevant Publications

[1] Visualization Task Taxonomy to Understand the Fuzzing Internals | ACM TOSEM 2025

[2] Visualizing and Understanding the Internals of Fuzzing | ASE NIER 2024

[3] Program Feature-based Benchmarking for Fuzz Testing | ISSTA 2024

[4] Qualitative and Quantitative Analysis of Callgraph Algorithms for Python | ICCQ 2021

More on ORCID

Education

Ph.D in Computer Science | Paderborn University | 2020 – Ongoing

M.Sc. in Computer Science | Paderborn University | 2018 – 2020 | Grade: 1.6

Skills

- C | C++ | Python | LLVM | Rust
- Linux | Docker | Git

Other Contributions

PhASAR

- Developer and maintainer of PhASAR static analysis framework.
- Develop static client analyses to identify interesting data-flow behaviors such as use-after-free, double-free, buffer-overread, etc., vulnerabilities.

Interests

Shuttle Badminton

Potterhead

Harmonica

Hiking

Travelling