

Alperen Keles

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🔍 Google Scholar
📄 Alperen Keles

Education

Doctorate of Philosophy - Computer Science 2021 - 2026(Expected)
University of Maryland, College Park Maryland, USA

Bachelor of Engineering - Computer Engineering 2017 - 2021
Middle East Technical University Ankara, Turkey
GPA: 3.66/4.0 (**top 5% in class of 229**)

Publications

Deeper Properties for Programmable Testing (under review) PLDI 2025
Alperen Keles, Justin Frank, Ceren Mert, Harrison Goldstein, Leonidas Lampropoulos

Tail: A Typed and Structured Document Editor POPL 2024 SRC
Alperen Keles

Etna: An Evaluation Platform for Property-Based Testing (Experience Report) ICFP 2023
Jessica Shi, Alperen Keles, Harrison Goldstein, Benjamin C. Pierce, Leonidas Lampropoulos

Protocol Verification Language(Poster Submission) CGO 2020 SRC
Alperen Keles, Ozan Akin, Ozan Sazak, Umut Sahin

DroPPPP: A P4 Approach to Mitigating DoS Attacks in SDN WISA 2019
Goksel Simsek, Hakan Bostan, Alper Kaan Sarica, Egemen Sarikaya, Alperen Keles, Pelin Angin, Hande Alemdar, Ertan Onur

Work Experience

University of Maryland - PLUM Maryland, USA
- Graduate Research Assistant Aug 2022 - Present
Working with Leonidas Lampropoulos on the intersection of Property Based Testing, Fuzzing, and Formal Verification.

Amazon Web Services New York, USA
- Applied Science Intern - Privacy Engineering May 2023 - Aug 2023
Developed a dataflow analysis method for a state machine based DSL.
(*Python, Java, Dataflow Analysis, Symbolic Execution, Abstract Interpretation*)

- Applied Science Intern - Privacy Engineering May 2022 - Aug 2022
Implemented of a novel encryption scheme on top of the AWS Encryption SDK.
(*Python, Dafny, AWS Encryption SDK*)

University of Maryland - Maryland Cybersecurity Center(MC2) Maryland, USA(Remote)
- Research Intern Jul 2020 - Dec 2020
(*Program Synthesis, Automatic Exploit Generation*)

Havelsan Ankara, Turkey
- Part-Time Engineer Jul 2020 - Jul 2021
Designed and implemented a novel bandwidth detection and optimization algorithm for a video-conference application.
(*Javascript, React*)

Emproof Bochum, Germany
- Embedded Security Engineering Intern Jun 2019 - Sept 2019
Worked on translation validation of binary obfuscation techniques.
(*C++, Z3 SMT Solver, ARM Assembly, Symbolic Execution*)

Community Service

afetbilgi.com afetbilgi.com
- Founder Feb 2023 - Jul 2023

ICFP Programming Contest
- Co-Organizer of 26th Annual ICFP Programming Contest Sep 2022 - Jul 2023
- Organizer of 25th Annual ICFP Programming Contest Jun 2022 - Sep 2022