Alperen Keles

Linkedin [Github](https://github.com/alpaylan)
Email [Scholar](https://scholar.google.com/citations?user=5T4PvEAAAAAJ&hl=tr)

Education

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

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

Publications

Etna: An Evaluation Platform for Property-Based Testing (Experience Report) ICFP 23
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

Projects

Enhancing Coq Extraction
— Graduate Level Research March 2023 - Present
Designing and implementing a set of tooling around Coq Extraction capabilities for improving user experience for working with hybrid Coq-OCaml code bases.
Coq, OCaml, Extraction

Community-Service

26th Annual ICFP Programming Contest icfpcontest2023.github.io
— Co-Organizer Sep 2022 - Jul 2023
TypeScript, React, Next.js, Rust

25th Annual ICFP Programming Contest icfpcontest2022.github.io
— Organizer Jun 2022 - Step 2022
TypeScript, React, Property-Based Testing

Work-Experience

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

Amazon Web Services Privacy Engineering Team - Automated Reasoning - Applied Science Intern May 2023 - Aug 2023

Developed a dataflow analysis method for a state machine based DSL.
Python, Java, Dataflow Analysis, Symbolic Execution

Amazon Web Services Privacy Engineering Team - Automated Reasoning - Applied Science Intern 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) - Research Intern Jul 2020 - Dec 2020

Program Synthesis, Automatic Exploit Generation

Havelsan - Part-Time Engineer Jul 2020 - Apr 2020
Designed and implemented a novel bandwidth detection and optimization algorithm for a video-conference application.
Javascript, React

Emproof - Embedded Security Engineering Intern Jun 2019 - Sep 2019
Worked on translation validation of binary obfuscation techniques.
C++, Z3 SMT Solver, ARM Assembly, Symbolic Execution