

Alperen Keleş

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@alpaylan

Work

Bloomberg

Research Intern - Chief Technology Office

June 2024-Present

Working on applications of property-based testing on discovering memory safety violations.

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

Applied Science Intern - Privacy Engineering

May 2023-Aug 2023

Developed a dataflow analysis method on a state machine based DSL for AWS Step Functions.

Amazon Web Services

Applied Science Intern - Privacy Engineering

May 2022-Aug 2022

Implemented of a novel encryption scheme on top of the AWS Encryption SDK in Dafny and Python.

University of Maryland - Maryland Cybersecurity Center(MC2)

Research Intern

Jul 2020-Dec 2020

Havelsan

Part-Time Engineer

Jul 2020-Jul 2021

Designed and implemented a novel bandwidth detection and optimization algorithm for a video-conference application.

Emproof

Embedded Security Engineering Intern

Jun 2019-Sept 2019

Worked on translation validation of binary obfuscation techniques.

Volunteer Experience

afetbilgi.com

Founder

ICFP Programming Contest

Co-Organizer of 26th Annual ICFP Programming Contest

ICFP Programming Contest

Organizer of 25th Annual ICFP Programming Contest

Education

University of Maryland, College Park

Computer Science

Doctorate of Philosophy

Middle East Technical University

Computer Engineering

Bachelor of Engineering

Publications

Tail: A Typed and Structured Document Editor

Alperen Keles

POPL 2024 Student Research Competition

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

Jessica Shi, Alperen Keles, Harrison Goldstein,

ICFP 2023

Benjamin C. Pierce, Leonidas Lampropoulos

Protocol Verification Language

Alperen Keles

CGO 2020 Student Research Competition

Dropppp: a P4 approach to mitigating dos attacks in SDN

Goksel Simsek, Hakan Bostan, Alper Kaan Sarica,

WISA 2019

Egemen Sarikaya, Alperen Keles, Pelin Angin, Hande

Alemdar, Ertan Onur

Projects

Tail

Tail is a a schema based flexible document editor for highly structured documents such as CVs. (fun fact: this CV has been created using Tail)

<https://github.com/alpaylan/tail>

Devy

Devy is an interactive blog engine for adding interactive demos to blogs using a declarative language.

<https://github.com/alpaylan/devy>