Alperen Keles

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github.com/alpaylan/

Google Scholar
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Education

Doctorate of Philosophy **- Computer Science**
University of Maryland, College Park

2021 - 2026(Expected)
Maryland, USA

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

2017 - 2021
Ankara, Turkey

Projects

A Playground for Property Based Testing
- Graduate Level Research
Creating benchmarking and playground infrastructures for Property Based Testing tools
and research using bug mining and injection.
(Coq, OCaml, Python)

Jan 2022 - Present

Protocol Verification Language
-Domain Specific Language for Network Protocol Verification
Worked in core language design and developed a symbolic execution based verification engine.
(Rust, Z3 SMT Solver)

Oct 2020 - Jun 2021

Community Service

25th Annual ICFP Programming Contest
- Organizer
Designed and implemented the problem and the core logic of the contest. Assembled
and led a team of software engineers on the implementation of the contest portal.
(Typescript, React, Project Management)

icfpcontest2022.github.io
Jun 2022 - Sep 2022

Work Experience

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

Maryland, USA
Aug 2022 - Present

Amazon Web Services Privacy Engineering Team - Automated Reasoning
- Applied Science Intern
Worked on the design and implementation of a novel encryption scheme on top of the
Open Source AWS Encryption SDK.
(Python, Dafny, AWS Encryption SDK)

New York, USA
May 2022 - Aug 2022

University of Maryland - Maryland Cybersecurity Center(MC2)
- Research Intern
Worked on application of Inductive Program Synthesis Techniques on Automatic Exploit
Generation Domain.

Maryland, USA(Remote)
Jul 2020 - Dec 2020

Havelsan
- Part-Time Engineer
Worked on a browser based Video Conference Application. Designed and implemented
a novel bandwidth detection and video optimization algorithm.
(Javascript, React)

Ankara, Turkey
Jul 2020 - Jul 2021

Emproof
- Remote Embedded Security Engineer
- Embedded Security Engineering Intern
Worked on translation validation of binary obfuscation techniques.
(C++, Z3 SMT Solver, ARM Assembly)

Bochum, Germany
Jan 2020 - Apr 2020
Jun 2019 - Sept 2019

Teaching Experience

University of Maryland - Computer Science Department
- Teaching Assistant for CMSC132 - Object Oriented Programming II
- Teaching Assistant for CMSC351 - Algorithms

Maryland, USA
Jan 2022 - May 2022
Aug 2021 - Dec 2021