

ALPEREN KELES

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📍 Ankara, Turkey

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🔗 github.com/alpaylan

WORK EXPERIENCE

Remote Embedded Software Engineer

Emproof

📅 January 2020 – Present

📍 Bochum, Germany

Embedded Software Engineering Intern

Emproof

📅 July 2019 – September 2019

📍 Bochum, Germany

- Worked on translation validation of transformations done by binary obfuscation techniques against reverse engineering practices in embedded software.
- Wrote a lifter from Armv-M Instruction Set Architecture to an Intermediate Language(IL) of our design.
- Wrote an emulator for the IL mentioned above.
- Worked on Microsoft Research's SMT Solver Z3 for translation validation.

CENG140-C Programming Lab Assistant

Middle East Technical University

📅 Feb 2019 – May 2019

📍 Ankara, Turkey

RESEARCH AND PUBLICATIONS

DroPPPP: A P4 Approach to Mitigating DoSAttacks in SDN

The 20th World Conference On Information Security Applications

📅 August 21-24, 2019

📍 Jeju Island, Korea

Protocol Verification Language

IEEE/ACM International Symposium on Code Generation and Optimization Student Research Competition

📅 February 22 - 26, 2020

📍 San Diego, CA, USA

PROJECTS

PVL – Protocol Verification Language

Open Source Verifying Compiler Project

📅 August 2019 - Present

🔗 github.com/pvlang/

- A domain specific programming language for network protocol implementations to be formally verified against their specifications.
- Compiler is written in Rust.
- Program verification is done by a built-in verification engine inside the compiler.
- Project is a finalist of HAVELSAN(Air Electronics Industry) Cyber-Security Acceleration Program as 1 of 8 projects.
- Funded by AdimODTU Undergraduate Research Initiative.

Network Intrusion Detection System

Guided Research with Faculty Member

📅 Feb 2019 - July 2019

- Analyzed and surveyed publicly available Network Intrusion Data Sets.
- Worked on issues such as high class imbalance with techniques that contain over and under sampling, weight balancing.
- Worked with Python Scikit-Learn and Imblearn Libraries on Decision Trees and Random Forest Models
- Wrote a research paper on the study.

EDUCATION

B.S. in Department of Computer Engineering

Middle East Technical University

📅 2017 – 2021

🏛️ CGPA: 3.66/4 – 3rd Year

ACHIEVEMENTS



Fact Checker's Tool

First 12 in Coronathon Turkey



ACM-ICPC SEERC Participant(2018)



TUBITAK National Secondary School Research Projects Contest Regional Finals(2015)



TUBITAK National Science Olympiads for Computer Science Regional 3rd Degree(2014)

RELEVANT COURSEWORK

Language Processors

Data Communications and Networking

HOBBIES

Writing

Debating

Chess

Billiards

VOLUNTEER EXPERIENCE

Vice Chairperson of Executive Board

IEEE METU Student Branch

📅 May 2019 – April 2020

Coordinator of Biltek Project Group

IEEE METU Student Branch

📅 May 2018 – April 2019

LANGUAGES

Turkish

English



PROGRAMMING LANGUAGES

C

C++

Python

Matlab

