Yigitcan Ucar
Computer Engineer

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Cover Letter

Hello, I am Yigitcan Ucar, a fourth-year student majoring in Computer Engineering at Süleyman Demirel University. My passion for the world of computers has been ongoing since the day I acquired my first computer at the age of 5. Over the years, I have explored technological platforms such as Arduino programming and Raspberry Pi. Additionally, I have engaged in projects involving Python for data science, data manipulation, and big data.

In addition to Python, I have broadened my language spectrum by working with languages such as C, C#, Java, and JavaScript. Currently, I am actively interested in and developing projects related to artificial intelligence and machine learning. With experience in image processing techniques, I possess intermediate-level proficiency in MERN (MongoDB, Express.js, React.js, Node.js) technologies. Furthermore, I have gained competence in embedded system coding, microcontroller programming, and writing programs in assembly language.

This extensive skill set reflects my ability to work effectively in various areas of the computing world. I am currently continuing my university education, aiming to stay updated and enhance my skills in the field of computing.

Education

Suleyman Demirel Universty | Isparta/Turkey *2021-is continuing*
- Highest Ranked Student
- AGNO 3.70

Recep Gungor Anadolu High School | Buyukcekmece/Istanbul *2017-2021*
- School's Top Student

Fields of Work

- Cybersecurity
- Artificial Intelligence
- Machine Learning
- Data Engineering and Big Data
- System Administration
- Drone/Arduino Programming
- IOS Development

Foreign Language

- *Turkish (Native)*
- *English (B2)*
- *Deutsch (A2)*

Programming Languages

- Python
- C
- JavaScript
- Java
- C#
- SQL
- Bash/Shell
- R
- Arduino
- Swift
- Ruby
- Assembly

Participated Events

- *Siber Vatan*
- *Google Developer Students Club*
- *TUBITAK*
- *CoderSpace Hackathon etc.*
- *LEXATHON'23*
- *Huawie Digix Ai (Talent Bootcamp etc.)*

Skills, Competencies and Projects

- I have developed exploits in the field of cybersecurity using the Python language, including **keyloggers, network scanners, MITM attacks, packet listeners, ransomware, backdoors, buffer overflows, and more**
- In C language, I have designed data structures and created my own data structures. I modeled them and calculated their achievements, including **linked lists, arrays, stacks, queues, trees, graphs, heaps, and others.**
- Using MERN stack (MongoDB, Express.js, React.js, Node.js), I have developed projects, built a framework for applications using React, and deployed it on web services. This involved utilizing technologies such as **MongoDB, HTML, CSS, JavaScript, Nodemon, Postman, and others.**
- I have built a drone from scratch using my own equipment, wrote code in Python to make it fly, and created flight automations using technologies like **Ardupilot, PX4, ROS, Simulink/MATLAB, DJI SDK, SLAM, among others.**
- With Arduino, I have developed and coded various physical modules and attack devices. Additionally, I designed a modular hacking interface using Raspberry Pi, **encompassing devices for network attacks, packet listeners, mini computer interfaces, and more.**
- By leveraging radio waves, I have hacked devices operating at low frequencies, refining it with HackRF One. **This involved mimicking signals of remote-controlled doors, disrupting communication by generating noise signals, blocking infrared communication, sending my own commands, accessing and modifying data on local RFID cards, and more.**
- Using C#, I wrote automation programs with classes and class methods, including a **Hospital Automation system.**
- Through Python and R, I conducted individual work in Data Processing, Modeling/Visualization/Manipulation, Big Data, Machine Learning, Deep Learning, and Image Processing. I self-educated using tools like **Pandas, Numpy, Apache Spark, Scikit Learn, TensorFlow, OpenCV, and others.**

Skills, Competencies and Projects

- I learned to use databases and sought vulnerabilities in relational databases and document-based databases, including **MySQL, PostgreSQL, Redis, MongoDB, Oracle Database, and others.**
- To develop applications for iOS-based systems, I learned the Swift language and wrote simple applications using its libraries.
- I acquired theoretical and practical knowledge in System and Network Administration on Linux and Windows operating systems. This includes **expertise in Server Systems, Network Protocols and Architecture, Hypervisors, Domain Control, Active Directory, DNS, DHCP, FS/FSRM, IIS, and more.**
- Using the Atmega2560 microcontroller, I learned and experimented with assembly code, gaining an understanding of how reverse engineering is done.
- Using Python and Bash/Shell Script, I developed information gathering tools, including **Google Dork, Link Extractor, HTTrack, Archive.org, Whois Lookup, Pipl, DNS, Trace, and others.**
- I created my encryption algorithm and developed tools that compare and analyze various hashes against solved hashes from server services on the internet.
- In Java programming language, I used Swing to create simple interfaces and functions, integrating them for multi-platform use. **JVM etc.**
- With GOLANG, I wrote APIs for some previously created services and integrated them with different platforms.

My Hobbies

- Mountain and Nature Hiking
- Photography
- Cooking
- Paragliding
- Engaging in Sports

Professional Career

Red Team Member Intern – Cyber Security Department, Jotform, SAN FRANCISCO
(August 2024 – September 2024)

During my internship at Jotform, I played an active role as a Red Team Member within the Cyber Security Department. I led a project to build a basic Command and Control (C2) infrastructure that orchestrated agents on target devices for controlled data exfiltration. Using C and Python, I developed a lightweight implant that directly interacts with OS syscalls to receive and execute commands from the C2 server. I meticulously applied OPSEC principles and maintained stringent privacy management to ensure that all operations remained covert. This hands-on experience not only deepened my understanding of networking fundamentals but also provided valuable exposure to dockerized applications and network configurations, enhancing my overall cybersecurity expertise.