SANGYUN **KIM**

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Citizenship: United States of America
Security Clearance: SECRET (DoD - ACTIVE)

OBJECTIVE

Final-year Computer Science student and U.S. Army Sergeant in an Engineering Battalion with a strong foundation in systems programming, IT, and cybersecurity. Certified in Google's Cybersecurity and IT Support programs with hands-on penetration testing experience through TryHackMe. Actively pursuing a cybersecurity role in government to contribute with integrity, technical skill, and disciplined service.

EDUCATION

BA Computer Science | Boston University

SEPT 04 2023 – May 2025
GPA: 3.58
Honors: Dean's List
Courses: Operating System, Distributed Systems, Advanced Software System, Software Engineering, Full Stack

BS Computer Science | University of Massachusetts Boston

SEPT 04 2021 – SEPT 04 2023
GPA: 3.789
Honors: Dean's List
Courses: Intermediate and Advanced Data Structure and Algorithms, Computer Architecture and Organizations

United States Army Ordnance School | Ft Lee. VA

NOV 2020 – APR 2021
Description:

- 12-week program with a focus on maintaining wheeled vehicles, associated trailers and material handling equipment systems

Courses:

- Automotive Electricity, Automotive Transmissions and Transaxles, Brake Systems, Diesel Engines, Steering and Suspension Systems

EXPERIENCE

Computer Assistant / Programmer | Boston University

DEC 12 2024 – CURRENT

- Provided hardware and technical support for lab and classroom equipment, ensuring smooth operation of projectors, workstations, and peripheral devices
- Executed comprehensive cable management for lab safety and operational efficiency, reducing hazards in high-foot-traffic areas
- Supported troubleshooting of networked systems, helping identify connectivity issues and ensuring consistent access to lab resources
- Managed checkout and accountability for computing devices, maintaining inventory logs and ensuring secure distribution and return

Wheeled Vehicle Mechanic | United States Army Reserve

JULY 21 2020 – Current

- Performed hands-on mechanical maintenance and inspection of wheeled vehicles to ensure safe and reliable operation in mission-critical environments
- Led Preventive Maintenance Checks and Services (PMCS), identifying faults, correcting issues, and completing detailed service reports to support readiness
- Assisted with tool and parts accountability, regularly checking inventory, identifying missing items, and reporting discrepancies to the senior NCO for timely resolution

Special Agent Trainee | United States Army Reserve

APR 22 2024 – Feb 01 2025

AWARDS: Army Achievement Medal (AAM)

- Participated in Counterintelligence (CI) training, including foundational skills in information analysis, reporting, and threat awareness
- Created and delivered briefings on CI case studies, focusing on identifying foreign intelligence activity and recommending countermeasures
- Non-Commissioned Officer in Charge (NCOIC) with motor vehicle and Preventive Maintenance Checks and Services (PMCS) to ensure operational readiness. Achieving the rank of Seargent in this role.

SKILLS

Programming Language

- Assembly Language (GNU)
- C#
- C language
- Java
- JavaScript
- Python 3
- React JS
- React Native Expo
- SQL
- TypeScript
- Scripting (Bash, Makefile)

Tools & Platforms

- Microsoft Office
- Visual Studio and VS Code
- .Net framework
- GDB (Debugger)
- Firebase DB
- Matplotlib
- Pandas
- Linux, Windows, macOS
- Multimeter use for circuit & wiring diagnostics
- IP cameras & Sonar motion sensor

Networking & Security

- SSH, Static IP config, IP subnetting, TCP/IP
- Nmap
- Burp Suite
- Metasploit
- SIEM Tools
- Privilege Escalation (training context)

Certificates & Language

- Google Cybersecurity
- Google IT Support
- Jr Penetration Tester
- Native fluency in Korean and English (Speaking, writing, listen)

PROJECTS

KimOS | C & Assembly language & GRUB 2 & Makefile

DEC 2024 – CURRENT

Description:

- Personal Operating System Development Project
- Designed and developed a custom operating system (OS) to apply and expand system-level knowledge, utilizing C and Assembly for low-level programming
- Created a modular architecture by fragmenting code into reusable header files to improve maintainability and scalability
- Current focus includes implementing context switching (FIFO with yield), setting up the Interrupt Descriptor Table (IDT), and refining a custom file system to support indirect pointers and bitmap-based node tracking
- Github Link (https://github.com/SPC-Toad/KimOS)

Jr Penetration Tester Certification | TryHackMe

DEC 2024 – Mar 2025

Description:

- Pursuing a comprehensive learning path covering core technical skills necessary for performing security assessments on web applications and enterprise infrastructure
- Acquired hands-on experience in subdomain enumeration, authentication bypass techniques, and detecting/exploiting vulnerabilities such as IDOR, File Inclusion (LFI/RFI), SSRF, Cross-Site Scripting (XSS), Command Injection, and SQL Injection
- Gained proficiency in using Burp Suite for web application penetration testing, including modules such as Repeater, Intruder, and Extensions for request duplication and automation

Kernel Keyboard Driver | C & Assembly language

SEPT 2024 – OCT 2024

Description:

- Developed an interrupt-driven PS/2 keyboard driver with custom functionality, including string capture triggered by Ctrl + R and output display triggered by Ctrl + P
- Built and tested user-level executable program to read interrupts from the kernel module, utilizing insmod and rmmod commands for seamless module insertion and removal
- Github Link (https://github.com/SPC-Toad/kernel-keyboard-driver)

Server Model Analysis | C & Assembly language & Python 3

SEPT 2024 – DEC 2024

Description:

- Implemented various multi-threaded server models using C, Assembly, and Python, experimenting with different queuing theory models such as MM1, MD1, MG1, MM1K, MMN, and N*MM1
- Applied scheduling policies, including First In, First Out (FIFO) and Shortest Job First (SJF/SJN), to evaluate server performance
- Integrated semaphores for synchronized access to shared resources and implemented deadlock prevention mechanisms to enhance system stability in concurrent environments
- Conducted performance analysis of each server model, visualizing results and deriving conclusions using Python 3 Matplotlib
- Github Link (https://github.com/SPC-Toad/server-analysis)

Personal SSH Server | Raspberry Pi 5

AUG 2024 – SEPT 2024

Description:

- Set up an SSH server on a Raspberry Pi 5, configured with custom port forwarding to enhance security by reducing bot attacks on the default SSH port (22)
- The setup leverages knowledge from the Google Cybersecurity and IT Support Certificate to manage Domain Name System (DNS), routers, port forwarding rules, and SSH key configurations
- Github Link (https://github.com/SPC-Toad/ssh-server)

Sonar TCP Server | C language & Arduino

AUG 2024 – AUG 2024

Description

- Implemented a server that receives data from an Arduino-based sonar system using Transmission Control Protocol (TCP) connection, logging the distance and angle of detected objects
- The system is designed to monitor the environment and record the presence of foreign entities
- Github Link (https://github.com/SPC-Toad/sonar-tcp-server)

C Chat Server | C language

AUG 2024 – AUG 2024

Description

- This project is a simple multithreaded chat server written in C, utilizing socket programming and select() to handle multiple clients simultaneously
- Each client can send and receive messages in real-time, with the chat history being saved to a chat-log file
- Github Link (https://github.com/SPC-Toad/c-chat-server)

Personal Website | React JS & Three.js

MAY 2023 – CURRENT

Description

- Developed personal website using React JS and Three JS
- Improved responsiveness of the website (desktop and mobile friendly)
- Detail can be found in the README (https://github.com/SPC-Toad/professional-portfolio)
- Website Link
- Website Link (Hosted on Raspberry Pi 5)

Google IT Support Certificate | Coursera

JUN 2024 – AUG 2024

Description:

- 6-month program with focus on detail-oriented IT Support: Technical Support Fundamentals, Operating Systems and You: Becoming a Power User, IT Security: Defense against the digital dark arts, System Administration and IT Infrastructure Services, The Bits and Bytes of Computer Networking
- View certificate here

Finds – Powerful File Searching Tool | C language

Feb 2024 – Mar 2024

Description:

- "Finds" is a powerful command-line tool designed to search for a specified string within files and directories. It extends the basic string search functionality to support regular expressions with specific control characters for more flexible and complex search patterns
- Demonstration video in GitHub (https://github.com/SPC-Toad/unix_file_string_search)

Unix Function | C Language

FEB 2024 – MAR 2024

Description:

- This project consists of tools for examining sections and symbols of object files
- The tools implement functionalities similar to “objdump -h” and “nm” commands (There are both static and dynamic library versions of these tools available)
- Github Link (https://github.com/SPC-Toad/unix-function-public)

Google Cybersecurity Professional Certificate | Coursera

Jan 2024 – Jan 2024

Description:

- 9-month program with focus on detail-oriented cybersecurity: experiencing with identifying threat, risks, and vulnerabilities; security hardening; threat modeling; and incident escalation and response
- View certificate here

Courses:

- Manage Security Risks | Detection and Response | Linux and SQL | Networks and Network Security | Automated Cybersecurity Tasks with Python | Assets, Threats, and Vulnerabilities | Foundations of Cybersecurity

Hada Language Learning App | React Native Expo & Firebase DB

Jan 2024 – MAY 2024

Description:

- Hada is a Korean flashcard learning app that leverages the power of spaced repetition to optimize the learning process. Unlike other platforms, Hada is designed to streamline your learning experience, making it simpler, more efficient, and tailored to your needs
- Contributed as a Software Engineer in the Agile environment
- Github Link (https://github.com/Project-Hada/Hada-App-Client)

KatApp | React Native & C# .NET & Firebase DB

Jan 2024 – May 2024

Description:

- KatApp helps cat owners manage their cat's health and information efficiently. By leveraging the power of AI, users can scan cat food barcodes, receive a breakdown of product information, get insights on best sellers from Amazon, and maintain records of past QR codes scanned
- Contributed as a Software Engineer in the Agile environment
- Github Link (https://github.com/neezacoto/KatApp)

RSA Encryption | Python

Oct 2023 – Nov 2023

Description:

- Implemented RSA encryption and decryption in Python using both Euler's theorem and Matrices
- More information about RSA encryption using Euler's theorem here (https://github.com/SPC-Toad/rsa_encryption)
- More information about RSA encryption using Matrices here (https://github.com/SPC-Toad/rsa_matrix)