Rachel (Younwoo) Park

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Education

Sungkyunkwan University	**Expected Dec 2025**
Bachelor of Science, Computer Science & Engineering	GPA 4.44 / 4.5
Bachelor of Engineering, Industrial Engineering	

Relevant Coursework: Distributed System, Operating Systems, Data Structures, Algorithms, Computer Architecture

Experiences

Python Study Group Instructor, Samsung Institute of Technology **Mar. 2024 - Present**
- Mentored Samsung employees in applying Python for real-world data analysis and automation tasks
- Developed and delivered a comprehensive Python curriculum focusing on data processing, visualization, web scraping, and open API using Numpy, Pandas, and more

Research Intern, Sungkyunkwan University **March 2024 - June 2024**
- Collaborated with Professor Miae Son on transforming the KMTF (Korean Military Tactical Framework) to NIEM format to enhance interoperability within the Ministry of National Defense's battlefield systems
- Performed foundational work on data interpretation and restructuring, focusing on improving the efficiency of military information systems through the conversion of MTF data to NIEM format

Projects

AI-Powered Language Therapist (Chitchat) **Jul. 2024 - Present**
Sungkyunkwan University startup program SPARK, Project Manager & Full Stack Developer
- Spearheaded the development game-like application powered by an AI speech therapist for children with language disorders, overseeing all aspects of the project from concept to deployment
- Implemented backend services using Flask and developed the frontend with NextJS & React-Native, focusing on robust API development to ensure smooth interactions between the server and client
- Applied project management principles to coordinate team efforts and maintain effective communication
- Achieved **6th place out of 96 teams** at SeSAC Hackathon, organized by Seoul & Google Korea

Malicious URL Detection Service (URLS) **Jul. 2024 - Oct. 2024**
Korea Information Security Industry Association (KISIA), Backend & AI Developer
- Architected and implemented a scalable backend using NestJS and Flask, integrated with PostgreSQL, and deployed on AWS EC2 with docker and a CI/CD pipeline for continuous integration and deployment
- Developed a model aggregation system to combine outputs of three models, enhancing accuracy to over 92%
- Engineered a network packet analysis model using RNN within a Docker container to ensure system security, achieving 94% accuracy in detecting malicious URLs
- Led a team to **1st place** (out of 25 finalists) at KISIA Information Security Developer Hackathon

xv6 OS, Course: Operating Systems **March 2024 - June 2024**
- Implemented system calls to retrieve and modify process priorities, and developed a Completely Fair Scheduler (CFS) to manage process scheduling based on priority and virtual/physical run time
- Added support for virtual memory management and a page fault handler to manage memory access
- Implemented a page replacement mechanism using the Least Recently Used (LRU) and clock algorithms, managing swappable pages and optimizing memory usage

Awards & Certifications

Korean Ministry of Science and ICT Award, KISIA Information Security Developer Hackathon	**Aug. 2024**
Seoul Business Agency Excellence Award, SeSAC Hackathon (Seoul x Google Korea)	**Aug. 2024**

Leadership and Extracurricular Activities

PR Officer of Snowboarding Club, Sungkyunkwan University **Mar. 2022 - Feb. 2023**
- Recruited over 200 members, increasing club funds by 70%, while producing media content
- Negotiated and signed housing contracts to facilitate winter training events and provided snowboarding lessons to new members, fostering a welcoming and supportive environment for beginners

Skills

Programming Languages: C/C++, Python, Java, Kotlin, R, SQL, TypeScript, JavaScript, HTML/CSS

Tools: Node.js, Next.js, NestJS, Vue.js, Flask, Tailwind, Spring, REST API, Scikit-Learn, Pandas, NumPy, MySQL, PostgreSQL, AWS, Google Cloud Platform, Docker, Figma, Prisma, Git, Android Studio, Linux