

Simon Lee

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U.S./South Korea Citizen

EDUCATION

CARNEGIE MELLON UNIVERSITY Pittsburgh, PA

Bachelor of Science in Electrical and Computer Engineering

May 2026

Overall GPA: 2.92/4

SKILLS

Programming Languages: Python, C/C++, Java, SQL, HTML, CSS, JavaScript, MATLAB, SystemVerilog

Libraries/Frameworks: TensorFlow, Pytorch, OpenCV, Sklearn, NumPy, Matplotlib, Pandas, Keras, Hugging Face, Pillow, Flask

Software & Tools: Docker, AWS (Lambda, S3, CloudWatch), Microsoft Office, Cadence, Github, Arduino IDE

WORK EXPERIENCE

Republic of Korea Air Force

Aircraft Maintenance Engineer

September 2023 - June 2025

NEXT Lab, Yonsei University Seoul, South Korea

Research Engineer Intern

June - September 2023

- Used ray tracing software to enhance and optimize optical configurations for mixed reality devices, improving Near-Eye Display quality
- Applied Fourier plane imaging microscopy to evaluate and resolve issues with optical system efficiency, such as light leakage and image clarity

Undergraduate Research, Carnegie Mellon University Pittsburgh, PA

Summer Research Intern

July - August 2022

Topic: Multi-Agent Path Planning: Subdimensional Expansion and Operations

- Built a program that performs multi-agent path planning in which utilizes A* search algorithm and conflict-based search to track multiple agents on a temporal plan graph
- Devised methods to improve efficiency and time complexity for the algorithm to run faster

Planet Cents, Inc. Clearlake, CA

Full Stack Developer Intern

June - August 2021

- Collaborated with a cross-functional team to design and develop a prototype for a sustainable B2B & B2C eCommerce platform, aimed at securing funding
- Utilized Shopify to build and customize the prototype website's user interface
- Integrated Shopify's API with custom back-end services to manage product inventory, user authentication, and transaction processing using HTML and Shopify Liquid

PROJECTS

Image Processing Service

Winter 2024

- Developed a RESTful API using Python and Flask to process images with features like resizing, rotating, and brightness adjustments, incorporating JWT authentication for secure user access. Managed metadata storage with SQLite, ensured seamless image handling using Pillow, and implemented user-friendly upload and processing workflows.

Set Scene

Fall 2024

- Developed a pipeline using ResNet-50 for feature extraction, BLIP for contextual captioning, and GPT-2 to generate expanded scene descriptions.
- Optimized performance with model caching, preprocessing, and parameterized control for caption and narrative generation.

Auto-Updating Data Visualizations

Summer 2024

- Developed a real-time data visualization system using Python, Matplotlib, and AWS, integrating AWS Lambda and S3 for automatic data updates and dynamic charting
- Implemented event-driven updates with AWS CloudWatch and automated deployment using AWS CodePipeline, ensuring scalable visualization updates

HONORS

Carnegie Mellon Small Undergraduate Research Grant (SURG) Program Award

Spring 2022

Gold Prize, Sparklabs Tech Startup Challenge

Spring 2020