Hee Won Son | Software Engineer

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I have three years of experience using Python and C++ and worked on diverse machine learning and software engineering projects, from environmental research to JavaScript game development. I work very efficiently in fast-paced projects with my creativity and ability to learn and utilize new frameworks quickly.

Technical Skills

- **Programming**: Python (Tensorflow, PyTorch, Pandas, Numpy, SciKit-Learn, sklearn), C++, JavaScript, C#, Java
- **Other**: HTML, CSS, TailwindCSS, PHP, Node.js, AWS, Git, Vim, Latex, R, Matlab, Photoshop

Education

Stanford University Stanford, CA
M.S. in Civil and Environmental Engineering Sep 2021 – June 2023
Concentration: Environmental Data, Statistics, and Modeling
Coursework: *Software Development for Scientists and Engineers, Design and Analysis of Algorithms, Programming Abstraction, C++ Programming Laboratory, Deep Learning, Convex Optimization.*

Ewha Woman's University Seoul, South Korea
B.A. in Environmental Science and Technology Sep 2016 – Feb 2020
Best Bachelor's Thesis Award; Dean's List

Projects

Classic Game Rehab! ***Stanford University*** Oct 2022 - Present
- Utilized JavaScript to develop famous classic games in a refined style. Games included T-rex Running, Space Invaders, and Destroying Flying Objects. Used Tailwind CSS for user-friendly and attractive interfaces.
- Store user scores in local storage and let users upload their records to ranking boards. **Website**

Resume Helper ***Stanford University*** Sep 2022 – Dec 2022
- Built a word cloud using JavaScript to improve the software engineering job search experience. Utilized Google custom search API to enable users to search for job postings directly.

Personal Responsive Webpage ***Stanford University*** Jul 2022 - Aug 2022
- Constructed a responsive personal website using Tailwind CSS for a user-friendly interface. **Website**

Transformer Model, Earthquake Prediction in Japan ***Stanford University*** Mar 2022 - May 2022
- Predicted the magnitude of Japan's historic earthquake in 2013. Preprocessed daily maximum magnitude data based on fault zones and trained separately to improve performance.
- Led, established, and shared model pipeline to facilitate experiments by three people as a team.

Machine Learning Models, Water Quality Prediction ***Ewha Womans University*** Feb 2021 - Jul 2021
- Pioneered water quality prediction using Machine Learning in South Korea and established a "meaningful prediction accuracy" standard in phosphorus quality research.
- Predicted concentration of total phosphorus in Euiam Lake, South Korea, using RF, XGBoost, DNN, and LSTM from TensorFlow. Prediction accuracy was highest for the LSTM model, with an accuracy of 0.8529 in the spring.
- Determined the top two management priorities among 40 potential impacting factors using Gradient Tape. **https://doi.org/10.1016/j.ejrh.2022.101069**