

# SANGJUN SON

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## INTERESTS

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I am interested in **Machine learning**, **Data mining**, **Tensor analysis**, **Blockchain**, **Web development** and **Site reliability engineering**.

## EDUCATION

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<b>Seoul National University</b> , <i>Seoul, Republic of Korea</i> B.S. in Computer Science and Engineering Interdisciplinary Major in Entrepreneurship	Mar. 2016 - Aug. 2022
<b>Daegu Science High School</b> , <i>Daegu, Republic of Korea</i> High School Diploma, Natural Sciences	Mar. 2013 - Feb. 2016

## PUBLICATIONS

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**Sangjun Son\***, Yongchan Park\*, Minyong Cho, and U Kang,  
“**DAO-CP: Data-adaptive online CP decomposition**,” *PLOS ONE* 2022,  
(\* Both authors contributed equally to this work)

Dawon Ahn, **Sangjun Son**, and U Kang,  
“**Gtensor: Fast and Accurate Tensor Analysis System using GPUs**,” *CIKM 2020*,  
29th ACM International Conference on Information and Knowledge Management, Virtual Event, Ireland

## WORKING EXPERIENCES

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<b>Engineer Intern</b> , <i>NFTBank, Backend Team</i> Deployed a scholar resume web-page for scholarship application. Developed an automated payout service for scholarship managers.	Dec. 2021 - Feb. 2022
<b>Google Software Engineering Intern</b> , <i>Google Korea LLC., Desktop Search Team</i> Automatic I2F and nesting config generation for hOSRP to diOSRP conversion: Designed an internal tool for efficient development in OSRP migration.	Jun. 2021 - Sep. 2021

## RESEARCH EXPERIENCES

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<b>Data Mining Laboratory</b> , <i>Seoul National University</i> Undergraduate Research Internship (Advisor: Prof. U Kang) <ul style="list-style-type: none"><li>◦ <b>Gtensor</b>, <b>BIGtensor</b>: Accelerated large-scale tensor analysis on heterogeneous system.</li><li>◦ <b>DAO-CP</b>: Enhanced accuracy for CP decomposition of time-evolving tensors by a data-adaptive algorithm.</li></ul>	Nov. 2019 - Feb. 2021
<b>Real-Time Ubiquitous Systems Laboratory</b> , <i>Seoul National University</i> Undergraduate Research Internship (Advisor: Prof. Chang-Gun Lee) <ul style="list-style-type: none"><li>◦ Implemented simulation to study effects of AED delivery using unmanned vehicle transport technology on defibrillation in out-of-hospital cardiac arrest.</li></ul>	Jul. 2017 - Feb. 2018

## TEACHING EXPERIENCES

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<b>Logic Design &amp; Web Development</b> , <i>31th Peer Tutoring Program in College of Engineering</i>	Spring. 2022
<b>International Students Integrated Peer Tutoring Program</b> , <i>Undergraduate Student Tutor</i> Data Structures & Algorithm Fundamentals, SNU Gwanak Residence Halls	Spring. 2021

<b>Digital Computer Concept and Practice</b> , <i>Lab Class Lecturer</i> Introduction to Python and Its Application, Dept. of Computer Science and Engineering	Fall. 2020
<b>Basic Computing: First Adventures in Computing</b> , <i>Teaching Assistant</i> Python Basics, SNU Faculty of Liberal Education	Fall. 2020
<b>Basic Calculus 1</b> , <i>Undergraduate Student Tutor</i> TA Office of the Department of Mathematical Sciences	Spring. 2020

## SOFTWARE

<b>Scholar Resume</b> , <i>SPA for Axie Infinity Scholarship Application</i> Resume page depicting scholars' game career, including ranks, MMR, and earned SLP history	Jan. 2022 - Feb. 2022
<b>BIGtensor</b> , <i>Contributor of BIGtensor-GPU and Hadoop</i> Tensor mining packages for large-scale tensor analysis	Nov. 2019 - Feb. 2021
<b>Drone Transfer Simulator</b> Simulation of AED drone delivery to defibrillation for patients with out-of-hospital cardiac arrest	Jul. 2017 - Feb. 2018

## PROJECTS

<b>LinkedArt</b> , <i>College of Art Exhibition Archive Platform</i> Created an artwork sales channel between buyers and artists and provided a networking community of college of art undergraduate/graduate students to build their careers. Operated Next.js and NestJS for front-end and back-end frameworks with PostgreSQL DB as a full-stack engineer. Built an automated deployment pipeline via Vercel and Heroku cloud application platforms.	Spring. 2022
<b>Seoul Bike Transit</b> , <i>Spatial Geography Information Research using qGIS</i> Analyzed validity and efficiency of public transportation system w/ Seoul public bicycle service <i>Ttareungyi</i> . Defined standards of a good route in safety, time, distance, exercise, cost, and transit counts. Visualized <i>Ttareungyi</i> routes compared to those only using public transport via a live demo.	Spring. 2022
<b>MopReM: Moiré Pattern Removal for Mobile</b> , <i>Texts/Diagrams on Single-colored Background</i> Established a efficient module for mobile cameras specialized in demoreing re-captured screen materials.	Fall. 2021
<b>Deep Learning-based Wrinkle Detection</b> , <i>Morpheus3D</i> Built new models to segment wrinkle parts in 3D scanned face images by exploiting state-of-the-art methods.	Fall. 2020
<b>ABC</b> , <i>Art with Block-Chain: Media-art Platform</i> Designed a platform where any creator can upload their own media arts and increase profits. Implemented smart contract on ERC-721 token that records artwork metadata and p5.js-based contents on blockchain.	Spring. 2020
<b>BusyWrite</b> , <i>Team Writing Solution to Accelerate Collaboration</i> Implemented a concept of a unit of thought that users write on, called <i>Bubble</i> , and enabled users to write simultaneously and merge after resolving conflicts.	Fall. 2017

## SKILLS

<b>Programming Languages</b>	C++, Python, Java, MATLAB, R, Typescript (welcome to any languages)
<b>Frameworks &amp; Tools</b>	PyTorch, React, Next.js, Django, NestJS, OpenCL, OpenGL, Hadoop, Google Functions, Apache Airflow
<b>Languages</b>	Korean (native), English

## HONORS and AWARDS

<b>ACM ICPC Regional Contest Seoul</b> , <i>ACM ICPC Gogle Team</i> , 15th place	Nov. 2021
<b>Merit-based Scholarship (full amount)</b> , <i>Seoul National University</i>	Fall. 2020 - Spring. 2021
<b>SNU Development Fund Scholarship</b> , <i>Seoul National University</i>	Spring. 2017 - Fall. 2017
<b>Korea Olympiad in Informatics</b> , <i>National Programming Contest for High School Students</i> Silver medal, 3rd place	May. 2015

## EXTRA-CURRICULAR ACTIVITIES

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**WD Partners**, *Consulting Firm providing Indoor Ventilation Solution*

Jun. 2021 - Dec. 2021

Demonstrated optimal condition for high ventilation efficiency through CFD analysis for pollutants. (e.g., fine dust and droplets containing viruses).

Built a prototype device using Coanda effect for real-world validation.

**Decipher**, *Blockchain Research Group in Seoul National University*

Mar. 2020 - Aug. 2020

Attended weekly seminars about various blockchain topics as a member of StuDeFi.

Designed a donation platform, AID-U for contributing student education expenses.

**Republic of Korea Army**, *Obligatory Military Service*

Feb. 2018 - Oct. 2019

Discharged on full-term military service

Occupational specialty: administration, communication equipment operation, chaplaincy