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EDUCATION

Undergraduate Student
- Bachelor of Science in Information and Statistics
- Chungnam National University, Daejeon, Republic of Korea
- Mar 2020 - Present
- GPA: 3.76/4.5

EXPERIENCES

Undergraduate Research Assistant, Data Science Lab, Department of Information and Statistics (Feb-Jul 2025)
- Regularly studied major coursework and prepared for exams during academic term
- Read various introductory-level papers in statistics from academic societies
- Assisted with simple tasks such as data labeling and score tallying as requested

Korea Astronomy and Space Science Institute (KASI) intern (Jun-Aug 2025)
- Regularly worked on processing and preparing satellite solar wind observation data for deep learning analysis, Including organizing raw data into a structured format suitable for modeling (e.g., synchronized input-output dataset Creation using npz files).
- Applied Python programming for data preprocessing, feature engineering, and iterative refinement of datasets To align with research objectives in space science.
- Assisted in developing and evaluating Deep Learning models aimed at predicting characteristics of solar wind Heavy ions based on observational data.

PROJECT

University administrative AI document review automation, Generation-type AI Challenge (Apr-Aug 2025)
- Automated student document submission and administrative review using an AI chatbot based API and hybrid OCR
- Delivered integrated web platforms for students and administrators with Figma-designed React frontend, Spring boot backend, and MySQL database
- Implemented an end-to-end administrative service covering document submission, AI-assisted preliminary review, Feedback delivery, final approval, and statistical management
- Enhanced service quality and operational efficiency through Python-based data analysis and visualization

Detection of Air Pollution Emission Sources Using Satellite Image – Multimodal Deep Learning
  National Information Society Agency (NIA) Data Creator Camp (Sep-Nov 2025)
- Conducted air pollution emission source detection and analysis using satellite imagery and multimodal deep learning
- Applied core computer vision techniques including object detection, height estimation, and semantic segmentation On Kompsat-3/3A and Sentinel-2 satellite datasets
- Implemented models such as YOLOv8 for chimney detection, ResNet for height estimation, and U-Net for Industrial complex segmentation utilizing publicly available open-source frameworks
- Gained experience in environmental big data analysis, transfer learning, and multimodal fusion methods under the ESG theme

RESEARCH INTERESTS

Main field: Data Science, Statistical Analysis, Artificial Intelligence

Current focus: Statistical modeling, machine learning, and intelligent computing

SKILLS

Programming languages: R, Python

PUBLICATIONS

Co-author of a collaborative research project titled "Prediction of Heavy Ion Charge State Ratios and Elemental Composition of Solar Wind Using Deep Learning" conducted at KASI intern.

The paper is currently in preparation for submission, with ongoing efforts to refine the dataset by excluding CME periods and applying quality flag filters.

Planned future work includes applying symbolic regression methods to further improve physical insights, as recommended by leading researchers.

This research involves close collaboration with senior scientists and aims to contribute to the understanding of solar wind ionization states through advanced AI modeling.

PRESENTATIONS AND POSTERS

None.

HONORS AND AWARDS

Korea Microsoft Award, (Generation type AI Challenge - Chungnam National University)	Sep 2025
Completion Certificate Awarded, (Data Creator Camp - National Information Society Agency, NIA)	Nov 2025

REFERENCES

None.

SUMMARY

My research interests focus on statistical analysis and data science methodologies to extract insights and solve real-world problems.

Through coursework and internships, I have developed skills in data preprocessing, statistical modeling, and data visualization.

I am eager to deepen my expertise in statistical theory and computational techniques, aiming to contribute to data-driven decision making and applied research in various fields.