

In Sung Jang

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Professional Experience

[University of Chicago, Astronomy](#) | Research Data Scientist

Nov 2020 - Present

- **Research and Engineering**
 - Implemented quantitative research methodologies to determine large-scale cosmological parameters
 - Developed non-parametric edge-detection algorithms, enhancing the precision of stellar distance measurements
 - Collaborated with international teams, leading to the analysis and publication of over 5 papers in Astrophysical Journals
- **Big data analysis**
 - Created end-to-end pipeline development in Python, effectively managing extensive datasets from space telescopes
 - Employed advanced statistical methods to uncover patterns and signals within extensive source catalogs ($N > 1$ million).
 - Reduced systematic errors by refining flux measuring algorithms, lowering errors by 2% from 10%

[Leibniz Institute for Astrophysics Potsdam \(Germany\)](#) | Post-doctoral researcher

2016 - 2020

- **Time series data analysis :**
 - Extracted time-series photometric information from unstructured, pixelized raw data
 - Developed algorithms for the time-series analysis of variable stars, enabling the identification of transient phenomena
 - Utilized Monte-Carlo simulations to quantitatively assess statistical errors of stellar flux
- **High-Performance Computing (HPC)**
 - Utilized supercomputers in Germany and S. Korea to perform photometric tests, significantly accelerating workflows
 - Collaborated effectively with computational scientists, optimizing code performance and parallelizing simulations

Education

[Seoul National University](#), Ph.D in Astronomy&Astrophysics

2009 - 2016

[Inha University](#), BSc in Aerospace Engineering

2005 - 2009

Skills

- **Technical Skills:** Python, SQL, Machine Learning, Matlab, R, Git, Linux, Tableau, LaTeX, and Scientific writing
- **Soft Skills:** Problem-Solving, Critical Thinking, Continuous Learning (Fostered in High-Level academia)

Projects and Honors

[Business Intelligence via Machine Learning](#)

- Employed polynomial features and Linear Regression in Machine Learning to predict Chicago home prices using Zillow data
- Optimized bank marketing strategies through K-Nearest Neighbor classifiers, resulting in enhanced efficiency
- Leveraged Decision Tree algorithms to accurately forecast hotel booking demands

[Kaggle Data Science projects](#)

- Developed predictive models for various competitions, showcasing proficiency in machine learning and statistical analysis
- Continuously learned and adapted by studying Kaggle Kernels, exploring novel techniques and approaches

[Data-Driven Research Publications](#)

- 11 first-author journal articles with >300 citations in quantitative data analysis