In Sung Jang

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Qualification Summary

Quantitative data analysis with over 10 years of experience in astronomy. Proven track record of international collaborations (US, Germany, and S. Korea) and rich publications in academia. Exceptional skills in massive data reduction (>1TB) using powerful clusters (>100 CPUs) in astronomy, and in-depth knowledge of statistics. Robust abilities to conduct quantitative research and transform raw data into valuable insights that can be applied to address industrial and financial challenges.

Areas of Expertise

- ♦ Research & Analysis
- ♦ Statistical Modeling
- ♦ Strategic Planning & Execution
- ♦ Data Analysis & Management
- ♦ Solutions Implementation
- ♦ Data visualization & Structures
- ♦ Project Coordination
- ♦ Data Evaluation & Coordination
- ♦ Cross-team Collaboration

Professional Experience

University of Chicago, Astronomy **2020 – Present**
Sr. Postdoctoral Researcher

Create pipelines to simultaneously process massive astronomical images (Python and IDL). Evaluate time-series photometric data by developing linear and non-linear regression routines. Determine signals / patterns in the large source catalogs (N > 1million) by utilizing statistical methods.

- Reduced systematic errors up to 2% (from 10%) by improving flux measuring algorithms.
- Collaborated on over 10 scientific publications / authored over 1000 combined citations by liaising with leading group.
- Achieved Hubble Space Telescope research grants (>200 orbits, $250K, incl. PI programs).
- Minimized data processing time up to 70% by building data reduction pipelines for astronomical survey data (>1TB).

Leibniz-Institut für Astrophysik Potsdam (Germany) **2016 – 2020**
Postdoctoral Researcher

Leveraged super-computers to derive photometric properties through non-linear 2D model fits. Implemented statistical methods to quantify stellar flux. Performed in-depth research on complex issues and provided best possible solution.

- Delivered presentation at five international conferences and collaborated on over 10 scientific publications.
- Conducted statistical analyses of large astronomical data sets to identify patterns and structures, analyzing >1 million sources per project.
- Led 30% improvement in accuracy by executing statistical methods to quantify stellar flux above noisy background levels.
- Ensured successful completion of over eight projects within defined budget and time by liaising with teams.

Education

Ph.D. in Astronomy & Astrophysics, Seoul National Univ., South Korea 2016

Master of Science in Astronomy & Astrophysics, Seoul National Univ., South Korea 2011

Bachelor of S. in Aerospace Engineering, Inha Univ., South Korea 2009

Publications

42 peer-reviewed journal articles with >1900 citations (top 5% of Ph.D. graduates in 2016)

Technical Proficiencies

Python, LaTex, IDL, SQL, Linux, Tableau, and Machine learning