Jun-Hwan Choi

choi.junhwan@gmail.com

(413) 219-6355

Objectives

Astrophysics with 10+ years of research experience focusing on implementing and analyzing state-of-art numerical simulations transitioning into Data Science.

Computer Skills

Languages & Software: Python, C/C++, Fortran, SQL, Matlab/Octave

High Performance Computing Experience: Develop and implement numerical simulations in national super computing facilities such as TACC, NCSA, and OLCF.

Data Science Training

Data Incubator Mar. - May 2016

- mini-projects: SQL, Machine Learning (including NLP and Time Series), Visualization, MapReduce, Apache Spark

- capstone project: Consumer's Complaints Analysis (http://jhc-complaints.herokuapp.com)

UT Austin Summer Statistics institution for \Introduction to Big Data Analysis" and

\Introduction to Data Mining: Methods and Practices With R and Hadoop", Coursera \Machine Learning by Andrew Ng", edX \Microsoft: DAT203x Data Science and Machine Learning Essentials".

Academic Projects

Published more than 23 peer review academic journals including 10 leading author.

Reionization and Galaxy Formation in the Local Universe: in University of Texas Aug. 2013- Present

Data reduce and management procedure for the largest cosmological simulation for the early Universe and generates 100 15TB outputs in Titan Supercomputer at OLCF.

Developed the data analysis and visualization pipeline using Fortran and Python.

The Early Massive Black Holes: in University of Kentucky Jul. 2010 - Jul. 2013

Improvement and implementation of massively parallelized N-body/Hydrodynamics simulations written in C++ and Fortran to investigate the black hole formation in the early Universe. Developed python scripts that characterize the simulated gas density probability distribution with models using regression methods, and compute the signal processing (power spectrum) of the gas perturbation.

Galaxy formation in early Universe: in University of Nevada Las Vegas Sept. 2007 - Jun. 2010

Using massively parallelized cosmological N-body/Hydro code written in C. Developed and implemented key subroutines for the galaxy formation physics and on-the- density based clustering algorithm to extract the galaxy properties from the random particle realization in the simulation data.

Other Experiences

Co-instructor, who organizes, mentors, and lectures, for Freshman Research Initiative

course in Department of Astronomy, University of Texas Austin, Jan. - Dec. 2014

Organizer for Astronomy Journal Club, UNLV, 2008 - 2009

Refereed Papers: MNRAS, ApJ (2013 - )

EDUCATION

Ph.D. in Astronomy, University of Massachusetts at Amherst (MA, USA), Aug. 2007

M.S. in Astronomy, Yonsei University (Seoul, Korea), Feb. 1999

B.S. in Astronomy (minor in Physics), Yonsei University (Seoul, Korea), Feb. 1997