

Jun-Hwan Choi

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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, Pearl High Performance Computing Experience: Develop and implement numerical simulations in national super computing facilities such as TACC, NCSA, and OLCF.
Academic Projects	<p>Published more than 23 peer review academic journals including 10 leading author.</p> <p>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.</p> <p>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 linear and polynomial regression method, and compute the power spectrum of the gas perturbation.</p> <p>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-fly density based clustering algorithm to extract the galaxy properties from the random particle realization in the simulation data.</p>
Non-Research Experience	<p>Co-instructor for <i>Freshman Research Initiative</i> course in Department of Astronomy, University of Texas Austin, Jan. - Dec. 2014</p> <p>Organizer for Astronomy Journal Club, UNLV, 2008 - 2009</p> <p>Refereed Papers: MNRAS, ApJ (2013 -)</p>
Data Science Training	<p><i>Data Incubator Scholar</i> Mar. 2016</p> <p>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”.</p>
EDUCATION	<p>Ph.D. in Astronomy, University of Massachusetts at Amherst (MA, USA), Aug. 2007</p> <p>M.S. in Astronomy, Yonsei University (Seoul, Korea), Feb. 1999</p> <p>B.S. in Astronomy (minor in Physics), Yonsei University (Seoul, Korea), Feb. 1997</p>