

Tuguldur Sukhbold (Ph.D.)

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Columbus, OH

(permanent resident of the U.S.)

I am a scientist with a background in theoretical astrophysics, proficient in computational modeling, and deeply passionate about machine learning, data visualization, image processing, and blockchain technology. Looking for opportunities to employ my quantitative skills to tackle tough problems in industrial setting.

Experience

Fellow (Erdős Institute Cõde Bootcamp) 2021

- [Lacuna](#) - in collaboration with 3 other scientists we are developing tools to improve the accuracy of GPS locations of small maize fields in east Africa. Utilizing various machine learning techniques to analyze low resolution images from Planet and Sentinel-2 satellites.

Freelance Work (Nationwide Children’s Hospital) 2021

- developed venous intravascular ultrasound image processing pipeline – [vivus](#)
- utilizes combination of convolutional neural network and deterministic models for geometric analysis
- deployed at Dr. Breuer’s lab at Nationwide Children’s Hospital, publication in medical journal in prep.
- eliminates ambiguity of hand measurements (94% precision) and improves surgical safety (10% reduction in time)

Research Scientist (Ohio State University) 2016–2021

- 26 peer-reviewed publications in astrophysics, 1500+ total citations, 30 invited seminars and colloquia
- [Sukhbold et al. \(2016\)](#) was among the top 50 (out of 20,000+) most cited astronomy papers in 2016
- extensive referee service to top journals and government agencies (NASA, National Science Foundation)
- lead small international collaboration, mentored 4 Ph.D. level students, organized 4 seminars

Awards and Scholarships

- **NASA Hubble Fellowship** (Worldwide) 2018
prestigious fellowship in astrophysics (~20 out of 350+). Provides \$300k in salary and research funding
- **Center for Cosmology and AstroParticle Physics Fellowship** (U.S. wide) 2016
competitive fellowship in astrophysics (~2 out of 200+). Provides \$200k in salary and research funding
- **Teaching Award** (Department wide) 2014
annual award given to the best teaching assistant of each department at UC Santa Cruz
- **Arizona Astronomy Board Scholarship** (Department wide) 2009
annual research funding award given to the best summer project at U. of Arizona

Public Outreach and Volunteer Work

- **Friends of Ohio State Astronomy and Astrophysics**, Ohio State University. 2016 – 2018
series of astrophysics research presentations to public
- **Telescope for each high school in Mongolia**, Office of Astronomy Development, IAU. 2015
won \$6000 grant from the IAU and brought 45 educational telescopes to rural schools in Mongolia
- **Inmate Education Project**, UC Santa Cruz. 2014
taught math classes to Santa Cruz County Jail inmates for one semester

Education

University of California Santa Cruz, Ph.D. in Astronomy and Astrophysics 2013 – 2016

University of California Santa Cruz, M.Sc. in Astronomy and Astrophysics 2011 – 2013

University of Arizona, B.Sci.in Astronomy 2007 – 2011

Languages: English, Mongolian, and Russian