

# Edward Greg Huang

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Nationality: American

## Current position

*Undergraduate Student*, Department of Mathematics, University of California, Berkeley

## Areas of Interest

Algorithmic information theory • Deep learning • Biophysics

## Education

2019 B.A. in Mathematics, University of California, Berkeley  
2016 Study abroad, University of Hong Kong

## Academic Positions

2018 - present Student Advisor to the Board of Regents, *University of California*  
2018 - present Deep learning research assistant, *Intelligent Robotics Group, NASA Ames Research Center*  
2018 REU research fellow, *Santa Fe Institute*  
2017 - present Biophysics research assistant, *NASA and Department of Mathematics, UC Berkeley*  
2015 - present Evolutionary ecology research assistant, *Department of Environmental Science, UC Berkeley*

## Industry & Nonprofit Experience

2018 - present Maintenance Manager, *Berkeley Student Cooperative*  
2017 - present Brand Ambassador, *Klättermusen AB*  
2017 - 2018 Vice President, *Cal Hiking and Outdoor Society*  
2016 Analyst Intern, *EQS Group AG*  
2015 - 2016 Architectural Intern, *Project M+*

## Publications

### JOURNAL ARTICLES

- 2018 **Huang EG**, Wolpert DH. (2018) Algorithmic information and inference devices. [Manuscript in preparation](#).
- 2018 **Huang EG**, Lin Y, Ebert M, Ham DW, & Sachs RK. (2018) Synergy theory for mouse Harderian gland radiation tumorigenesis induced by mixed beams whose individual components are nuclei in the galactic cosmic ray spectrum. *Manuscript under review*. [Code](#)
- 2018 Krehenwinkel H, Fong M, Kennedy S, **Huang EG**, Suzuki N, Cayetano L, & Gillespie RG. (2018) The effect of DNA degradation bias in passive sampling devices on metabarcoding studies of arthropod communities and their associated microbiota. *PLOS ONE* 13(1): e0189188. <https://doi.org/10.1371/journal.pone.0189188>

### INVITED TALKS & PRESENTATIONS

\* indicates presenter

- 2019 **Huang EG\***, Ham DW, Lin Y, Wang S, Zhao LY, Zhang Y, Blakely E, Chang P & Sachs RK. (2019) Synergy theory for murine Harderian gland tumors and in vitro chromosome aberrations induced by exposure to mixed beams with GCR components. Talk to be given at: *2019 NASA Human Research Program Investigators' Workshop*; Jan 22-25; Galveston, Texas, USA.
- 2018 **Huang EG\***, Wolpert DH. (2018) Connections between Turing machines and a formalization of knowledge. Talk given at: *Santa Fe Institute REU Final Talks*; Aug 9; Santa Fe, New Mexico, USA. [Video](#)
- 2018 Ham DW, Gao J, Song BL, Yu J, Zhao LY, **Huang EG\***, Lin Y, & Sachs RK. (2018) Synergy theory in biology: Simulating radiation damage during interplanetary voyages as an example. Poster session presented at: *11th Annual Biology and Mathematics in the Bay Area Conference*; Nov 18; San Francisco, California, USA. [Poster](#)

### BOOK CHAPTERS

- 2015 Adhikari A, Ghosh DJ, **Huang EG**, et al. (2015) Theory Meets Data: A Data Scientist's Handbook to Statistics. *UC Berkeley Dept. of Statistics*. [Manuscript](#)

### AUTHORED SOFTWARE

- 2017 **Huang EG**, Rominger AJ. (2017) kokua: An R-package of tools and data for Hawaiian ecology. [GitHub](#)
- 2016 Rominger AJ, **Huang EG**. (2017) hdimDB: Tools for biocollections database management in R. [GitHub](#)

## Selected Programming Projects

2018	deepFlood: deep learning to track floods using satellite imagery in TensorFlow
2018	abyss: rogue-like platform video game, Java
2018	BearMaps: web mapping service for the city of Berkeley, Java
2018	deque: data structure implementation, Java
2017	simpleNeuralNet: general feedforward neural network, Python
2017	multiAgentSearch: implementation of search algorithms, Python
2017	hdimGeo: interactive map of biocollections data from the NSF Hawaii Dimensions project, R
2016	yelpMaps: interactive map of Yelp data in Bay Area, Python
2016	schemeInterpreter: direct executor for Scheme programs, Python

## Grants, honors & awards

2018	REU Research Fellowship, National Science Foundation Grant No. 1757923 - \$7,000
2017	Dean's List, UC Berkeley
2016	ASUC Student Opportunity Fund Grant, UC Berkeley - \$1,000
2016	ASUC Academic Opportunity Fund Grant, UC Berkeley - \$250