Edward Greg Huang

Office of the Secretary and Chief of Staff to the Regents
1111 Franklin Street, 12th Floor
Oakland, CA 94607-5200
510.987.9220
Fax: 510.987.9224

eghuang@berkeley.edu
www.eghuang.com
GitHub: eghuang
Google Scholar

Nationality: American

Current position

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

Areas of interest

Algorithmic information theory • Biophysics • Deep learning

Education

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

Academic positions

2018 - present	Student Advisor to the Regents, *University of California*
2018	Artificial intelligence research assistant, *Intelligent Robotics Group, NASA Ames*
2018	REU research fellow, *Santa Fe Institute*
	Advisor: David H. Wolpert
2017 - present	Biophysics research assistant, *Department of Mathematics, UC Berkeley*
	Primary Investigators: Rainer K. Sachs and Eleanor A. Blakely
2015 - 2017	Evolutionary ecology research assistant, *Department of Environmental Science, UC Berkeley*
	Primary Investigators: Rosemary G. Gillespie and George Roderick

Industry & nonprofit experience

2018	Senior unit-level manager, *Berkeley Student Cooperative*
2017 - present	Brand ambassador, *Klättermusen AB*
2017 - 2018	Vice President, *Cal Hiking and Outdoor Society*
2016	Financial analyst intern, *EQS Group AG*
2015 - 2016	Architectural intern, *Project M+*

Publications

PEER-REVIEWED JOURNAL ARTICLES

2019   Chang PY, **Huang EG**, Lin Y, Ham DW, Sachs RK, Hada M, Blakely EA. (2019) Murine tumors after exposures to mixtures simulating galactic cosmic rays: three recent experiments and their synergy theory interpretations. *Manuscript in preparation.*

2019   **Huang EG**. (2019) Algorithmic information and inference devices. *Manuscript in preparation.* PDF

2019   **Huang EG**, Lin Y, Ebert M, Ham DW, Zhang CY, & Sachs RK. (2019) Synergy theory for murine Harderian gland tumours after irradiation by mixtures of high-energy ionized atomic nuclei. *Radiation and Environmental Biophysics.* DOI

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.* DOI

INVITED TALKS & PRESENTATIONS

* indicates presenter

2019   Blakely EA*, Bakke J, Grover A, Rosen C, Bjornstad KA, Mao JH, **Huang EG**, Ham DW, Sachs RK, & Chang PY. Murine Harderian gland tumorigenesis induced by dual, rapid-sequence particle beams. Talk to be given at the *International Congress of Radiation Research*; Aug 25 -29; Manchester, UK.

2019   **Huang EG***, Ham DW, Lin Y, Wang S, Zhao L, Zhang Y, Blakely EA, Chang PY & Sachs RK. (2019) Synergy theory: murine Harderian gland tumors and *in vitro* chromosome aberrations induced by exposure to mixed beams with some high-LET components. Talk given at: *2019 NASA Human Research Program Investigators' Workshop*; Jan 22 - 25; Galveston, Texas, USA. Abstract [PDF] & Slides [PDF]

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

2017   Ham DW, Gao J, Song BL, Yu J, Zhao LY, **Huang EG***, Lin Y, & Sachs RK. (2017) 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. PDF

2016   **Huang EG*** & Rominger AJ. (2016) Managing large datasets from ecological fieldwork. Talk presented at the *Department of Environmental Science, Policy, and Management at UC Berkeley; May 6*; Berkeley, California, USA.

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.* PDF

AUTHORED SOFTWARE

2019   **Huang EG**, Ham DW, Lin Y, Wang S, Ebert M, Zhang CY, *&* Sachs RK. (2019) synergyTheory: A R-package of tools and data to model mixed radiation fields for radiobiologists. *In preparation for CRAN. GitHub*

2017   **Huang EG**, Rominger AJ. (2017) kokua: R-package of tools and data for Hawaiian ecology. *GitHub*

2016   Rominger AJ, **Huang EG**. (2017) hdimDB: Tools for bio-collections database management in R. *GitHub*

LETTERPRESS BOOKS

2019   Ferriss L, **Huang EG**, et al. (2019) Ina Coolbrith: Poet Laureate of California; Introduction by Charles Faulhaber. *Berkeley: The Bancroft Library Press.*

Selected programming projects

2019   numAnalysis: Algorithms for numerical approximation methods in MATLAB.
2018   deepFlood: Deep learning framework to track floods using satellite imagery over TensorFlow.
2018   abyss: Rogue-like platform video game in Java.
2018   BearMaps: Web mapping service for the city of Berkeley in Java.
2018   deque: data structure implementation in Java.
2017   simpleNeuralNet: General feedforward neural network API in Python.
2017   multiAgentSearch: implementation of search algorithms in Python.
2017   hdimGeo: interactive map of bio-collections data from the NSF Hawaii Dimensions project in R.
2017   kokua: Open-source R-package of tools and data for Hawaiian ecology.
2017   hdimShiny: Web application for ecological data wrangling.
2016   hdimDB: Open-source package of tools for bio-collections database management in R.
2016   yelpMaps: interactive map of Yelp data in Bay Area in Python.
2016   schemeInterpreter: Direct executor for Scheme programs in Python.

Grants, honors *&* awards

2019   Nominee, Kenneth Priestley Award
2019   Nominee, Outstanding Student Leadership Award, UC Berkeley
2018   REU Research Fellowship, National Science Foundation Grant No. 1757923
2017   Dean's List, UC Berkeley
2016   Freeman Foundation Scholarship
2016   ASUC Student Opportunity Fund Grant, UC Berkeley
2016   ASUC Academic Opportunity Fund Grant, UC Berkeley

Skills

PROGRAMMING: Python, R, Java, SQL, MATLAB, Scheme (Lisp), Bash.

LIBRARIES, APIS, AND TECHNOLOGIES: TensorFlow, Keras, Spark, Jupyter, scipy, numpy, pandas, matplotlib, Seaborn, stats, devtools, ggplot2, shiny, plyr, testthat, Git, LaTeX, Markdown, AutoCAD.

LANGUAGES: English (native), Cantonese (native), Mandarin (basic), Spanish (basic).

Memberships & affiliations

Regents of the University of California

      Public Engagement and Development Committee
      Finance and Capital Strategies Committee
      Investments Committee

Berkeley Student Cooperative
Cal Hiking and Outdoor Society (CHAOS)
Cal Entomology Club
Cal Boxing

Miscellaneous

Erdős number: 4