Gianluca Bencomo

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Research Experience

Princeton University, Department of Computer Science   Aug 2021 - present

Currently pursuing interests in continual meta-learning and adaptive modeling through Bayesian filtering and Langevin dynamics. *Advisor*: Dr. Thomas L. Griffiths.

Harvard Medical School, Department of Neurobiology   Jun 2019 - Aug 2021

Conducted a time-varying behavorial analysis of primate visual decision-making data using dynamic logistic regression and other Bayesian methods. Studied topics including V2/V3 cortical feedback, multi-task learning, illusions, dopamine, and Schizophrenia. *Advisor*: Dr. Richard T. Born.

NASA Jet Propulsion Laboratory   Jun 2018 - Aug 2018

Assisted in the successful design and construction of an electrochemical cell for the conversion of CO_2 to O_2 using a novel synthetic route. Research was in the interest of in-situ resource utilization requirements for life support on Mars. *Advisor*: Dr. Simon C. Jones.

Whittier College, Department of Biology   Jan 2018 - Mar 2020

Explored and analyzed induced changes in anatomy, physiology, and the gene expression profile in PC-12 cells exposed to concentrations of commonly used agricultural pesticides. *Advisor*: Dr. Erica Fradinger.

Education

2021 - present	M.S.E. (Computer Science) at **Princeton University**	(GPA: 3.85/4.0)
2017 - 2021	B.A. (Biochemistry) at **Whittier College**	(GPA: 3.97/4.0)

Awards & Honors

2021	Pi Mu Epsilon Math Honor Society Inductee
2021	Nu Mu Rho Chemistry Honor Society Inductee
2021	W. Roy Newsome Award in Chemistry
2019	Harvard-Amgen Scholars Fellowship Recipient
2018	Keck Undergraduate Research Fellowship Recipient

Papers

Bencomo, GM (2021). "Drug-Drug Interaction Prediction with Gaussian Processes". In: *Senior Thesis, Department of Chemistry, Whittier College, CA.*

Born RT, Bencomo GM (2020). "Illusions, delusions, and your backwards bayesian brain: A biased visual perspective". In: *Brain, Behavior and Evolution* 95.5, pp. 272–285.

Bencomo GM, Jones SC (2018). "Electrochemical Production of Oxygen and Methane on Mars by In-Situ Resource Utilization". In: *NASA Technical Reports Server: NTRS. [Washington, D.C.]*

Gunasekara, O et al. (2016). "small Unmanned Aerial Vehicles Modeling and Testing". In: *NASA Technical Reports Server: NTRS. [Washington, D.C.]*

Presentations

Bencomo, GM et al. (Aug. 2019). "Perceptual Decision Making: More Than Meets the Eye". In: *Research presented and poster session at the Harvard Summer Research Symposium, Cambridge, MA.*

Bencomo GM, Jones SC (Aug. 2018). "Electrochemical Production of Oxygen and Methane on Mars by In-Situ Resource Utilization". In: *Research presented at the Electrochemical Technologies Division at NASA JPL, Pasadena, CA.*