

Jeong Woo (Brian) Kim
(617) 650-7599 · jeong-woo_kim@brown.edu

EDUCATION

Bachelor of Science (candidate), Applied Mathematics September 2016 – May 2020
Brown University, Providence, RI

GPA 3.7. *Relevant Coursework:* Topics in Functional Analysis, Analysis: Functions of Several Variables, Analysis: Functions of One Variable, Applied Dynamical Systems, Introduction to Numerical Optimization, Statistical Neuroscience, Introduction to Pattern Theory, Abstract Algebra, Computational Probability and Statistics, Operations Research - Probabilistic Models, Applied ODEs I, Applied PDEs I.

Bachelor of Arts (honors candidate), Visual Art September 2016 – May 2020
Brown University, Providence, RI

GPA 4.0. *Relevant Coursework:* Painting I, Painting II, Art/Work: Professional Practice for Visual Artists, Modern Architecture, Contemporary Architecture

Milton Academy, Milton, MA August 2012 - June 2016
GPA 3.65

RESEARCH POSITIONS

Research Assistant April 2018 – Present
Elie Bienenstock, Department of Applied Mathematics, Brown University, Providence, RI

- Working on applying K-WTA dynamics as a model of compositionality to solving visual tasks that deep convolutional neural networks find difficult to solve.
- Applied “memory device” (membrane potential) to K-WTA dynamics and identified coherent states of tightly connected neurons in sparse random graphs.
- Investigated K-Winner Take All (K-WTA) networks in random and structured graphs as a theoretical but robust model of E-I (excitatory-inhibitory) balanced networks.

Research Intern June 2014 – August 2015
Massachusetts General Hospital, Charlestown, MA

- Liu, N., Jiang, Y., Chung, J.Y., Li, Y., Yu, Z., **Kim, J.W.**, Lok, J.M., Whalen, M.J., Wang, X. Annexin A2 Deficiency Exacerbates Neuroinflammation and Long-Term Neurological Deficits after Traumatic Brain Injury in Mice. *Int. J. Mol. Sci.* 2019, 20, 6125.
- Collected data to evaluate the neurobehavioral severity score of traumatic brain injury induced mice, through techniques such as the Morris water maze and Rotarod test.

ART EXHIBITIONS

2020

- “Kimchi”, (virtual), Seoul, South Korea

- “Love”, List Art Center, Providence, RI

2019

- “39th Annual Juried Student Art Exhibition”, Granoff Center for the Creative Arts, Providence, RI
- “The 2nd Art Show”, List Art Center, Providence, RI
- “Conception”, List Art Center, Providence, RI
- “Rising Senior Show”, List Art Center, Providence, RI

2018

- “Painting II Show”, List Art Center, Providence, RI

2017

- “Spring Arts Festival 2017”, Granoff Center for the Creative Arts, Providence, RI
- “Painting I Show”, List Art Center, Providence, RI

TEACHING

<i>Teaching Assistant</i> , Brown University, Ordinary Differential Equations	Fall 2018
<i>Teaching Assistant</i> , Brown University, Operations Research - Probabilistic Models	Spring 2019

AWARDS & HONORS

Karen T. Romer Undergraduate Teaching and Research Award	Summer 2019
--	-------------

Brown Mathematical Contest in Modeling: 2nd Place	November 2018
---	---------------

- Modeled and analyzed district maps to reduce gerrymandering using the Sznajd model, a model of opinion dynamics originating from statistical physics (Ising model).

Brown Mathematical Contest in Modeling: 1st Place	November 2017
---	---------------

- Modeled and analyzed war/political strategy using ordinary differential equations (Problem 1: Thrones)
- Apply realistic assumptions about the real world, so the problem can be simplified enough to mathematically model

Julie Sloane Award (visual art)	2017
---------------------------------	------

SKILLS & INTERESTS

Technical	MATLAB, Java, Python, L ^A T _E X, Photoshop, Illustrator
Languages	English, Korean (fluent)
Interests	painting, basketball, tennis, theoretical/computational neuroscience