ARIEL K. FELDMAN

Neuroengineering Graduate Student

akfeldma@andrew.cmu.edu | 847-571-4660 | arielfeldman.github.io/
Chicago, IL | @ArielKFeldman | arielfeldman | arielfeldman

EDUCATION

Ph.D. in Neural Computation and Machine Learning
Carnegie Mellon University

Sept 2020 – present

B.A. in Computer Science and Cognitive Sciences
Rice University

Aug 2016 – May 2020

Minor in Neuroscience

SELECTED PROJECTS

A Machine Learning Approach to Predicting Occurrence of Sharp-Wave Ripple Complexes
Rice University

Aug 2018 - Jan 2020 | Houston, TX

I attempted to predict the occurrence of sharp-wave ripples in real-time to disrupt them, effectively suppressing memories they are correlated with. CNNs, ADA-boosting, and Cascading Classifiers are among methodologies used.

Building a Basis for Budgie Behavior
National Science Foundation/Cornell NeuroNex

June 2019 - August 2019 | Ithaca, NY

By tracking and converting animal motion into time series data via convolutional neural networks, and running unsupervised clustering algorithms on this data to identify specific types of budgie motion, we attempted to build a basis of microbehaviors of budgies.

PUBLICATIONS

Journal Articles

- Singer, A et al. (2020). "Magnetoelectric materials for miniature, wireless neural stimulation at therapeutic frequencies". In: *Neuron (accepted)*.
- Wickens, A et al. (2018). "Magnetoelectric materials for miniature, wireless neural stimulation at therapeutic frequencies". In: *BioRxiv*.

Selected Conference Presentations

- Feldman, Ariel K., S. Dutta, and CT. Kemere (2019). "A Machine Learning Approach to Predicting Occurrence of Sharp-Wave Ripple Complexes". In: *Rice Undergraduate Research Symposium*. Houston, TX.
- Feldman, Ariel K., Eugene Kim, et al. (2019). "Building a Basis for Budgie Behavior". In: *Cornell NeuroNex*. Ithaca, NY.

ACHIEVEMENTS

Cornell NeuroNex REU Program
Selected to recieve a $4600 stipend and conduct machine learning research for neuroscientific problems.

Rice Undergraduate Scholars Program
Selected to receive a $2500 research grant for machine learning & neuro-engineering research.

Electrical and Computer Engineering Affiliates Day
Author on the first place winning Graduate Project.

TEACHING EXPERIENCE

Academic Fellow / 2018 - 2020
Provided supplementary notes & free aid for computer science & neuroscience courses, and guided students through their research experiences.

ELEC 220 Lab Assistant / Spring 20
Assisted Ray Simar in conducting online labs via Zoom during the Covid-19 Pandemic.

COMP 140 Teaching Assistant / Fall 19
Held weekly office hours and exam review sessions to assist students, as well as graded homeworks and exams.

NEUR 385/585 Teaching Assistant / Fall 18
Held weekly office hours and exam review sessions to assist students.

SKILLS

Python | Java | C++ | Embedded Systems | Arduino | Raspberry Pi | MATLAB | CAD Design/3D printing | HTML | CSS

LANGUAGES

English ●●●●●

Spanish ●●●●○

German ●●○○○