Joseph L. Marino

email: jmarino@caltech.edu

Research Interest My research interests lie at the intersection of machine learning and neuroscience. My main research focus has been on deep learning in computer vision.

Education

California Institute of Technology — 2014 - Present
Ph.D. in Computation and Neural Systems

University of Minnesota, Twin Cities — 2010 - 2014
Bachelor of Science in Physics, Minor in Computer Science — High Distinction

Work Experience

Cupitor Consulting — Data Analyst
St. Paul, MN — 2013 - 2014
Handled and analyzed client datasets for business valuation cases using Microsoft Access, Microsoft Excel, and SQL Server.

University of Minnesota Physics Department — Physics Tutor
Minneapolis, MN — Fall 2013
Worked directly with students, helping them learn how to solve introductory physics coursework problems.

NOvA Lab — Research Assistant
Minneapolis, MN — 2011 - 2012
Helped design and build neutrino detectors for Fermilab's large-scale NOvA experiment on campus at U of MN.

Projects

Classifying Birds From Parts — Winter 2015
With Prof. Yue, used Caffe's deep learning architecture to explore possible models for learning birds using the North American Birds dataset. Attempted to use bird parts (bill, wing, breast, etc.) to learn an interpretable model.

Image Classification Using Caffe — Fall 2014
Worked in Prof. Perona's lab using Caffe to investigate various custom cost functions. Used WordNet to generate a taxonomic cost function for ImageNet. Wrote and modified deep network layers in Caffe.

Caged Multi-Electrode Arrays — Summer 2013
Worked under Prof. Jerry Pine in the Caltech physics department. Tended to neural cultures, placed neurons into neurocages using laser tweezers, prepared/modified stimulation equipment, and wrote software to analyze stimulation data.

Qualifications

Programming Languages: C++, Java, Python, Scheme, T-SQL

Libraries and Tools: LaTeX, Matlab, Mathematica, Microsoft Excel, Microsoft Access, LabVIEW

Recognition

First Year Graduate Fellowship, Caltech	2014 - 2015
Dean's List, University of Minnesota	2010 - 2014
Summer Undergraduate Research Fellowship, Caltech	2013
Eagle Scout Award, Boy Scouts of America	2010