S. Sylvester

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Location DC/MD/VA Area

PROFILE & OBJECTIVE

Doctoral level systems neuroscientist and volunteer data scientist with a background in mathematics and experience in collecting and analyzing large, novel, unstructured neuronal time series data sets. Exploring opportunities in industry as a data analyst or data scientist.

SKILLS

Software & languages	MATLAB, R, Python, Hadoop (beginner), Spark (beginner)
Platforms	Windows, Mac OS
Techniques	Regression, classification, clustering, time series analysis, object detection, image segmentation, edge detection, predictive modeling, cross validation, supervised & unsupervised learning, version control (Git), distributed computing
Algorithms	Classification: logistic, KNN, k-means, DBSCAN, decision trees, random forest Time series: Dynamic time warping, seasonality, trends Object detection: Hough transformation, Gabor Annulus, RANSAC, Canny edge detection

WORK EXPERIENCE

2016-Present **Postdoctoral Research Associate**, *University of Maryland, College Park, MD*

- Utilized computer vision techniques to automate neuron detection in images which decreased neuron selection process by 1 hour 5-10 minutes, created cell detection app for lab-wide use
- Wrote software to analyze neuronal time series data and for paired visual and auditory stimulation during calcium imaging of awake and behaving mice (MATLAB)

2014-2016 **Postdoctoral Research Associate**, *Weill Cornell Medical College, New York, NY*

2007-2014 **Graduate Student**

- Wrote software to measure the velocity of blood cells and eye position of zebrafish (MATLAB)
- Used machine learning algorithms to create models of neuronal activity that quantify the contributions of velocity and position related signals in neurons during oculomotor behaviors of zebrafish

SELECTED PROJECTS

CellFinder App	An application that automates neuron detection in two-photon calcium images (link)
MATLAB	*imaq package*
Algorithms	*Gabor Annulus filter, Canny edge filter*
Kiva loan outcomes	Kiva & DataKind DC project to predict the likelihood of defaulting on a loan (link)
R	*caret, knitr, corrplot, ggplot2 libraries*
Taxi trip prediction	Project to predict the duration & distance of taxi trips in Porto, Portugal (link)
Python	*pandas, matplotlib, numpy, pyplot, math, seaborn, sklearn, scipy modules*
Algorithms	*dynamic time warping, k-means clustering, random forest & decision trees*

EDUCATION

2014 **Cornell University**, Ph.D., Physiology, Biophysics, & Systems Biology

2007 **University of Maryland, Baltimore County**, B.A., Applied Mathematics

Recent: **General Assembly**, Data Science Part-Time Course in Python, Completed Fall 2016
Coursera, JHU Data Science Specialization in R (expected to complete in fall 2017)

ACTIVITIES

DataKind DC	Women Who Code DC	Data Community DC	Society of Neuroscience
Volunteer	*Member*	*Member*	*Member & Presenter*