Andreas Karagounis

karagounis.l.andreas@gmail.com | (401) 474-6730

github.com/akaragou | andreaskaragounis.com | linkedin.com/in/akaragou

EDUCATION

Brown University, Providence, RI   SEPTEMBER 2017 - MAY 2018

Master of Science in Computer Science, 3.8/4.0
Brown University, Providence, RI   SEPTEMBER 2013 - MAY 2017

Bachelor of Science Computer Science-Economics, 3.5/4.0
Courses Include: Machine Learning, Computer Vision, Computational Probability and Statistics, Data Science

EXPERIENCE

Insight Data Science, New York City, NY — *AI Fellow*   SEPTEMBER 2018 - PRESENT

X-Ray Vision
- Built a web app using **Flask** that serves a trained **Tensorflow** model
- A radiologist can upload an X-Ray and receive the probability that an image contains an abnormality along with the highlighted region of abnormality
- Ran multiple experiments on **AWS** using **Tensorflow** exploring various Convolutional Neural Network (CNN) architectures, initialization methods and loss functions

Serre Lab, Providence, RI — *Research Assistant*   JANUARY 2017 - PRESENT

Deep Learning for Pathology
- Trained deep CNNs in **TensorFlow** to detect tumors in magnified histopathology slides of prostate cancer
- Ran experiments on multiple 8 GPU servers achieving a malignant vs benign accuracy of 95% and multiclass cancer grading accuracy of 88% (on par with state of the art results)
- Met with pathologists from Miriam Hospital (affiliated with Brown University Medical School) on multiple occasions to discuss modeling approaches

Deep Learning for Connectomics
- Trained deep CNNs for automating 2D and 3D segmentation of neural processes in Electron Microscopy (EM) Images
- Collaborated with the Neuroscience Department to apply domain knowledge to improve CNN models
- Implemented baselines that include variations of 2D U-Nets, 3D U-Nets and Fully Convolutional DenseNets in **Tensorflow**

Modelling Human Vision Using Convolutional Neural Networks
- Ran experiments to understand how layer depth of CNNs correlate with human vision
- Built data pipeline in **TensorFlow** that extracts features from each convolution and fully connected layer of a CNN and trains and tests a Support Vector Machine (SVM) on each layer
- Retrieved and parsed human web experimental data using **SQL** and **Python** to compute correlations between human categorizations and the categorizations generated by the trained SVMs

Brown Datathon, Providence, RI — *Workshop Facilitator*   MARCH 2017 AND MARCH 2018
- Held workshop on fundamental techniques and properties of deep learning and demonstrated how to build a neural network in **Keras** for predicting house prices
- Held workshop creating an interactive K-means clustering **Shiny R** web app

Black Sea Trade and Developmental Bank, Thessaloniki, Greece — *Intern*   JUNE 2014 - AUGUST 2014
- Analyzed and presented financial and geographical data on clients in banking sector using **Excel**
- Identified Greek companies in need of long term loans using financial statements
- Successfully identified a marble company in need of a loan exceeding 8 million euros and negotiated relations with the Bank

SKILLS

Programming Languages

Python (proficient), **SQL** (proficient), **Java** (familiar with), **C** (familiar with)
Frameworks

TensorFlow (proficient), **Keras** (familiar with), **AWS** (familiar with)