Andreas Karagounis

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EDUCATION

Brown University, Providence, RI
SEPTEMBER 2017 - MAY 2018
Masters of Science in Computer Science Candidate, GPA: 3.7/4.0

Brown University, Providence, RI
SEPTEMBER 2013 - MAY 2017
Bachelor of Science Computer Science-Economics, GPA: 3.5/4.0

RESEARCH

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

Automating Connectomics
- Training deep Fully Convolutional Networks (FCN) for automating the task of 2D and 3D segmentation of neural processes in Electron Microscopy (EM) images annotated by the chair of the Neuroscience Department at Brown University
- Implementations include a modified Unet and Fully Convolutional DenseNet in **Tensorflow**

Automating Pathology
- Training Convolutional Neural Networks (CNN) in **TensorFlow** to detect tumors in zoomed in images of histopathology
- Creating saliency maps to detect tumors at the cellular level
- Awarded 50,000 dollar grant for continued research

Correlations between Human Vision and Convolutional Neural Networks
- Building data pipeline in **TensorFlow** that extracts features from each convolution and fully connected layer of a CNN and trains and tests an SVM on each layer
- Retrieved and parsed human web experimental data using **SQL** and **Python** to compute correlations between each layer of a CNN SVM distances to the hyperplane and human categorization accuracies

TEACHING

CLPS1950: Deep Learning in Brains, Minds and Machines, CS1951A: Data Science, CS100: Data Fluency For All, Providence, RI — *Teaching Assistant*
JUNE 2016 - JANUARY 2018

- Created course materials from scratch in **Python** and **R** on topics such as multiple linear regression, multiple logistic regression, fully connected neural networks and convolutional neural networks
- Held office hours, labs and graded homeworks

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

PROFESSIONAL EXPERIENCE

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

COMPETITION

Kaggle Invasive Species Monitoring Competition
Placed in the top 14% by fine-tuning Vgg16 fully connected layers using batch normalization and image augmentations

COURSES

Algorithms and Data Structures
Big Data
Computational Vision
Computer Systems
Comp. Probability and Statistics
Database Management Systems
Data Science
Econometrics
Machine Learning
Prescriptive Analytics
Statistical Inference
Recent Applications in Prob. and Stat.
Vision for Graphics

SKILLS

Programming Languages
Python (proficient)
R (proficient)
SQL (proficient)
Java (some experience)
MATLAB (some experience)

APIs
TensorFlow (proficient)
D3.js (some experience)

LANGUAGES

English (native)
Greek (native)