Ajinkya Khamkar

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EDUCATION

Indiana University, Bloomington, Indiana

M.S. in Data Science — Aug 2016 – May 2018
- Cumulative GPA: 3.6 / 4.0

University of Mumbai, Mumbai, India

B.S. in Computer Science — Aug 2011 – May 2015
- Cumulative GPA: 3.6 / 4.0

PROJECTS

Image classification and localization using deep convolutional neural networks
- Using a pre-trained VGG-19 model as base, designed an efficient multi-object detection architecture to classify the PASCAL VOC 2007 dataset.
- Model was built using Keras library with theano backend architecture in python. Model was trained on GPU's using Indiana University's high performance computing resource Big Red 2.

Efficient object classification using an inception type model trained in parallel on multiple CPU's
- Improved efficiency and performance by training smaller wider networks on multiple CPU's to make full use of the available computing resources.
- Model is built to classify Cifar-10 dataset in tensorflow. Parallelism can be achieved as smaller networks do not share data resources and work independently.
- Model is trained on 4 CPU's with 16 cores each on Indiana University's cluster computing resource Karst.

Amazon back order predictions
- Predicted product backorders using support vector machines and gradient boosted decision trees.
- Tackled class imbalance to achieve 90% accuracy and 85% recall.
- Model was designed in R and trained on Indiana University's cluster computing resource Karst.

United States Presidential Elections-predicting voter choice
- Predicted voter preference based on their demographic characteristics and policy stance.
- Achieved 90% accuracy on test set using random forest and gradient boosted decision trees.
- Model was designed in R and an interactive web-ready report was designed in Tableau.

Forecasting unemployment rate using long short term memory networks
- Designed recurrent neural network model in Python to forecast unemployment rate.
- Model's performance was excellent with a RMSE error of less than 0.05.

Artificial intelligence agents for board games
- 'Connect 4' agent based on increasing depth alpha-beta pruning search; agent searched at depth 7 and returned the best possible move in 3 seconds.
- Designed board game agent for partially observable environments using Davis-Putnam-Logemann-Loveland satisfiability algorithm.
- Designed board game agent for stochastic partially observable environments using Markov decision process.

WORK EXPERIENCE

Associate Instructor, Indiana University — Aug 2017 – Jan 2018
- Associate instructor for course 'Artificial Intelligence' taught by Professor Gregory Rawlins.
- Responsible for mentoring groups interested in projects in machine learning and computer vision, designing course assignments and grading structure.

Research Assistant, University of Mumbai — Sep 2015 – Jul 2016
- Designed unsupervised document classification algorithm using weighted corpus, inverse document frequency and document scores.

Data Analyst, Holding Willey cricket website — Jun 2015 – Oct 2015
- Designed and implemented player database schema. Extracted information using scraping techniques. Performed data cleaning and uploading.
- Increased user base by improving social media participation. Optimizing content delivery at time of maximum user traffic.

PROFESSIONAL COMMUNITIES

Association of Information Science and Technology, Indiana University
- President — Jun 2017 – May 2018

SKILLS

Language: R, Python, SAS, Stata

Visualization: Tableau

Database: SQL, SQLite