Raghunath VP

E: [raghuv7@vt.edu] 411, New Kent Road, Blacksburg, Virginia M: [408-504-5011]

Seeking an Internship/Co-op for Summer/Fall 2018

EDUCATION

Virginia Polytechnic Institute and State University, Blacksburg, VA **Expected May 2019**
Master's Degree, Computer Engineering (Area of Interest: Software and Machine Intelligence) GPA (3.77/4)

National Institute of Technology Warangal, India **May 2016**
Bachelor's Degree, Electronics and Communication Engineering GPA (7.84/10)

WORK EXPERIENCE

Applications Developer, Optum, United Health Group, Bangalore, India **Jul 2016-Aug 2017**

- Worked as an Applications Developer in Optum's Data Science team. Applied exploratory data analysis and machine learning models on US health-insurance claims data.
- Developed models to identify future high-risk patients and to mitigate the risk through prior medical intervention.
- Worked on R and Python (scikit-learn, numpy, scipy, pandas). Developed predictive models using a distributed Spark system while working in an Agile Software Development Environment.

RESEARCH EXPERIENCE

Research Assistant, Computational Intelligence Lab, Indian Institute of Science, Bangalore, India **Summer 2015**

- Worked on solving the difficulties of cluster initialization sensitivity and undesired locally optimum solutions in conventional clustering methods with a special focus on image processing.
- Developed a variance based clustering algorithm and implemented it in MATLAB. Tested on datasets drawn from image processing, bioinformatics, stock market and remote sensing. The algorithm performed better when compared with state of the art methods such as Fuzzy C means and Kernel K Means in quantitative and qualitative terms.

PUBLICATION

Vibin Vijay, **Raghunath VP,** Amarjot Singh, SN Omkar, *Variance Based Moving K-Means Algorithm,* published in IEEE International Advance Computing Conference, January 2017.

SPECIALIZED SKILLS

C, C++, Python, Java
Other Software Packages: R, MATLAB, Scikit-learn, TensorFlow, Apache Pig.

SELECTED PROJECTS

Predicting NCAA Division-1 Basketball Tournament Brackets

- Won Inter Agile-pod competition within Optum with teams competing from Hyderabad, Boston, Minnetonka, Dublin, and Bangalore to predict outcome of college basketball tournament through Machine Learning models.
- Came up with separate models to predict winner, winning and losing team scores, number of rebounds and turnovers for each team through crafty feature engineering and model selection.

Vision Based Road Environment Mapping

- Developed a lane detection and lane departure warning system aimed at increasing vehicular autonomy as a part of course project for ECE 5554: Computer Vision.
- Mapped the drivable region through road mapping and vehicle detection through a CNN with an external region proposal network.
- The CNN is trained on CIFAR 10 dataset and fine-tuned further on additional car images used for vehicle detection.

Time Series Modeling through Recurrent Neural Networks

- Investigated different RNN architectures in modeling stock exchange dataset drawn from Yahoo Finance.
- LSTM model implemented in Python and trained using a TensorFlow backend through Google Compute Engine.

RELEVANT COURSES

Virginia Tech – Fall 2017

- Computer Vision
- Advanced Machine Learning
- Network Architecture and Protocols

National Institute of Technology Warangal

- Probability and Stochastic Processes
- Computer Architecture and Organization
- Digital Signal Processing