Raghunath Vadakkan Purushotham

254, 11316 Jollyville Road, Austin, TX | # 411, New Kent Road, Blacksburg, VA
linkedin.com/in/raghunathvp
E: [raghuv7@vt.edu] | M: [408-504-5011]
rvp22.github.io

OBJECTIVE : Seeking full time opportunities in Software Development, Machine Learning and Computer Vision starting from June 2019.

EDUCATION

Virginia Tech, Blacksburg, VA GPA (3.83/4) **Expected May 2019**
Master's Degree, Computer Engineering (Specializing in Software and Machine Intelligence)
Courses: Parallel Computation, Virtual Environments, Computer Vision, Machine Learning, Advanced Computer Architecture

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

WORK EXPERIENCE

Co-op Data Scientist, Digital Experience Team, Nokia, Austin, US **May 2018 – Dec 2018**

- Currently doing a Fall co-op with work focused on the intersection of machine learning and device simulation for NB-IoT sensors.
- Developed simulations for IoT device battery discharge based on communication patterns and physical environment characteristics.
- Developed predictive models for End-of-Life phase identification through time series analysis for long-life Li-ion batteries.

Applications Developer, Data Science Team, Optum (United Health Group), Bangalore, India **Jul 2016-Aug 2017**

- 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.
- Developed predictive models on R and Python using a distributed Spark system while working in an Agile Development Environment.

RESEARCH EXPERIENCE

Graduate Student Researcher, Unmanned Aerial Systems Lab**,** Virginia Tech **Feb 2018 – Apr 2018**

- Worked under Prof. Kevin Kochersberger in the development and implementation of path-planning algorithms for autonomous robots after collecting data through unmanned aerial systems. Work focused on Computer Vision and Machine Learning.

Research Assistant, Computational Intelligence Lab, Indian Institute of Science, Bangalore, India. **Summer 2014**

- Solved 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 tested on datasets drawn from image processing and remote sensing.

PUBLICATION

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

SPECIALIZED SKILLS

Java, C, C++, Python, Lua
Scikit-learn, TensorFlow, R, MATLAB, OpenCV, Parallel Computing (OpenMP, OpenACC), Google Cloud Platform, Apache Pig, Apache Hive, Spark, Unity, Git, SQL, Tableau, Statistical Inference, Data Analytics, Machine Learning, Computer Vision, Linux OS

SELECTED PROJECTS

Vision Based Road Environment Mapping - ECE 5554: Computer Vision **Oct – Dec 2017**

- 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 and fine – tuning on CIFAR 10 dataset.

Neural Style Transfer – An implementation of Prisma App **Feb - Mar 2018**

- Implemented a convolutional neural network based algorithm to transform style of one image into the style of another using TensorFlow.
- Extracted features from VGG-Net to apply low level features of style image onto semantic higher level features of target content image.

Time Series Modeling through Recurrent Neural Networks – ECE 5424G: Advanced Machine Learning **Oct – Dec 2017**

- 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.

Predicting NCAA Division-1 Basketball Tournament Brackets **Feb – Mar 2017**

- Won Inter Agile-pod competition as a part of a 3 member team within Optum to predict outcome of college basketball tournament through Machine Learning models.
- Developed and tested the accuracy of predictive models for winner, team scores, number of rebounds and turnovers for each team.