**Raghunath Vadakkan Purushotham**

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**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 .**

**Data Scientist Intern,** Digital Experience Team, Nokia, Austin, US **May 2018 – Dec 2018**

* Work focused on the intersection of device simulation and machine learning for NB-IoT sensors.
* Modeling battery discharge based on device communication patterns and physical environment characteristics.
* Prediction of End of Life stage 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***](https://arxiv.org/abs/1704.02197)*,* 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**

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**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.