# Gopi Vinod Avvari

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## LINKS

Github:// **gvavvari**
LinkedIn:// **gopivinodavvari**
Twitter:// **@TheGopiVinod**
Kaggle://**gopivinod**

## SKILLS

### PROGRAMMING

**Tools**:
Python • Java • Matlab
C++ • JavaScript • D3
**Version Control**:
Git • SVN
**Database**:
MySQL • MongoDB
**Modeling**:
LabVIEW • Simulink

## COURSEWORK

### DOCTORAL

Neural Nets and Machine Learning
Cloud Computing
Advanced Dynamic Programming
Nonlinear Programming
Linear Programming
Estimation and Radar Tracking
Information Theory and Games
Introduction to Algorithms
Robotics

### MASTERS

Introduction to System Theory
Digital Signal Processing
Sequential and Parallel Algorithms
Probability and Random Variables
Digital Communication theory

### SOCIETIES

IEEE Student Member
UConn Cyber Security

### PUBLICATIONS

Journals - 9
Conference Proceedings - 10
Patents - 2
Citations - 241

## EDUCATION

### UNIVERSITY OF CONNECTICUT

Ph.D. in Electrical and Computer Engineering
Dec 2017 | Storrs, CT
Cum. GPA: 3.62/4 | Major. GPA: 3.74/4

### UNIVERSITY OF CONNECTICUT

MS in Electrical and Computer Engineering
May 2013 | Storrs, CT

### ACHARYA NAGARJUNA UNIVERSITY

BS in Electronics and Communication Engineering
May 2011 | India

## EXPERIENCE

### APTIV | Algorithm Developer

Jan 2018 – Present | Kokomo, IN

- Developed sensor fusion algorithms with Vision and Radar data to track vehicles in multiple lanes
- Developed motion planning and trajectory optimization algorithms for Advanced driver-assistance systems
- Parallelized data extraction and algorithm analysis on 5 PB data of Vision and Radar sensors

### SYSTEMS AND OPTIMIZATION LAB

Jan 2012 – Dec 2017 | Storrs, CT

Project 1: Distributed Pattern Learning | Sponsor: Aptima

- The project goal is to cluster agents into different groups and assign each group to a commander. The clustering is done in such a way that the total workload for each commander should be less than a given threshold value
- This NP-hard problem is formulated as a constrained quadratic assignment problem and solved by spectral clustering and deep learning algorithms

Project 2: Space Management | Sponsor: NRL-Monterey

- Developed a two phase algorithm to detect collisions among a large group of moving objects
- Implemented R-trees, TPR-trees, and linear programming methods to detect all possible collisions
- Parallelized the two phase algorithm on a multi-core machine to determine collisions of a million objects in the order of minutes

Project 3: UAV Scheduling (Sequential & Parallel) | Sponsor: NRL-DC

- Developed a tool on proactive decision support for dynamic assignment and routing of unmanned aerial vehicles in coordination with NRL-DC
- Implemented Branch and Bound, Rollout, and Tabu search methods to determine $m$-best optimal and suboptimal solutions in feasible time.

### GENERAL MOTORS | R & D Engineer

May 2015 – Aug 2015 | Warren, MI

- Developed a machine learning library for fault detection and diagnosis in a 6 cylinder engine
- Implemented classifiers SVM, KNN, PCA and PNN to isolate the sensor and parametric faults