

I am a Second year masters student at the Amrita Vishwa Vidyapeetham in Automotive Electronics branch and also as a research assistant at Computational Engineering and Networking (CEN). I am working with the [Cybersecurity-Lab-at-CEN](#) and [Computational Thinking-Lab-at-CEN](#), and student of [Prof. Soman KP](#) and my research areas are Robotics, Autonomous vehicles, Machine Learning, Data mining and Deep learning, Reinforcement Learning, Causal inference, Non linear dynamics, Convex optimisation, Natural language processing, Signal and Image processing, Cyber Security.

I strongly believe in open science and reproducible research and actively publish code on my [Github profile](#).

I am Available on the job market!!

News

- July 2018 **Secured 2nd place** in DMD 2018 shared task in Cybersecurity domain. More details available at [DMD2018](#)
- July 2018 Organising Shared Task on CAN Intrusion Detection Coming Soon...!!
- July 2018 Registered for IECSIL 2018 Shared Task at [IECSIL 2018](#).
- July 2018 Registered for Multi-target speaker detection and identification Challenge Evaluation Shared Task at [MCE 2018](#).
- July 2018 Registered for NIPS 2018: AI for Prosthetics Challenge at [AI for Prosthetics Challenge 2018](#).

Journal Papers

A Brief Survey on Autonomous Vehicle Possible Attacks, Exploits and Vulnerabilities

Amara Dinesh Kumar, Vinayakumar R, Soman KP

Special Issue on the Emergence of Humanistic Digital Data in Informatics -ICT-Express
[under Review]

DeepImageSpam: Deep Learning based Image Spam Detection

Amara Dinesh Kumar, Vinayakumar R, Soman KP

Special Issue on the Emergence of Humanistic Digital Data in Informatics -ICT-Express
[under Review] [\[code\]](#)

Real Time Character Level Malicious Domain Name Prediction Using Deep Learning

Amara Dinesh Kumar, Harish Thodupunoori, Vinayakumar R, Soman KP

Springer Communications in Computer and Information Science Series (CCIS), ISSN: 1865:0929
[under Review] [\[code\]](#)

Conference Papers

Novel Deep Learning Model for Traffic Sign Detection Using Capsule Networks

Amara Dinesh Kumar

[\[paper\]](#) [\[code\]](#)

Book Chapters [under review]

Design and Investigation of an Extensible Framework for Malicious Domain Prediction Using Deep Learning Algorithms

Amara Dinesh Kumar, Harish Thodupunoori, Vinayakumar R and Soman KP

Design and Implementation of Real Time Packet Level Controller Area Network (CAN) Intrusion Detection System Using Deep Learning

Amara Dinesh Kumar, Rishish Kumar Naik, Vinayakumar R and Soman KP

Education

July 2017 - Present	M.tech in Automotive Electronics Amrita Vishwa Vidyapeetham, Coimbatore
June 2010 - June 2014	B.tech in Electronics and Communication Jawaharlal Nehru Technological University, Hyderabad

Master's Coursework

- MA607 - Linear Algebra
- CN613 - Computational optimization theory- linear and non-linear methods
- CY603 - Pattern Recognition and Machine Learning
- CN703 - Computational Methods for Cryptography
- CN733 - Neural network & Deep learning
- CY800 - Research Methodology
- Deep Learning
- Reinforcement Learning
- Digital Control System
- Multi Sensor Data Fusion
- Probability Graphical Models
- Sensing For Autonomous Vehicles
- Electric Vehicle Architecture
- Power Electronics and Convertors
- Real Time Operating Systems
- Automotive Embedded Systems
- Computer Vision and Image Processing

Skills

Languages	C, C++, Java, Scala, Python, Basics of R, Basics of Julia
Scripting Languages	Html, CSS, JavaScript, Bash, Awk, Sed, Perl, XML
Embedded System Softwares	Matlab, Simulink, CarSim, Canoe, KEIL, Proteus, Arduino Studio
Frameworks	Scikit-learn, LibSVM, TensorFlow, Theano, Keras, , OpenAI Gym, PyTorch, Basics of Caffe, DeepChem, DragoNN, Weka
Database	MySQL, Introduction to Oracle
Documentation Tool	LibreOffice, Microsoft Office, and Latex

Participated the following events in the department of Computational Engineering and Networking, Amrita Vishwa Vidyapeetham

- Saturday, October 28, 2017 - [AISec 2017](#): Modern Artificial Intelligence (AI) and Natural Language Processing (NLP) Techniques for Cyber Security.
- Saturday, December 16, 2017 - [Blockchain 2017](#): Blockchain and Machine Learning.
- Saturday, November 11, 2017 - [DeepSci 2017](#): Deep Learning for Healthcare and Financial Data Analytics.
- December 22-24, 2017 - [DeepChem 2017](#): Deep Learning & NLP for Computational Chemistry, Biology & Nano-materials.
- November 25-27, 2017 - [A Refresher experiential course on linear algebra and Optimization for Most Modern Signal processing and pattern classification](#)