






Vinod Kumar

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY

MS COMPUTER SCIENCE

Fall 2019 - May 2021 | Atlanta, GA

VTU, BELGAUM

BE INFORMATION SCIENCE

May 2009 | Mysore, KA, INDIA

First Class with Distinction

SKILLS

LANGUAGES:

Python, C/C++, JavaScript, Java

FRAMEWORKS:

Pytorch, Tensorflow, Keras, OpenCV, Sklearn, Pandas

DATABASES:

MongoDB, MySQL

COURSEWORK

GRADUATE

Deep Learning
Machine Learning
Computer Vision
Algorithms
AI for Robotics

UNDERGRADUATE

Algorithms and Data structures
C and Unix
Operating Systems
Networks
Logic design
Database Systems
Software Engineering

AREAS OF INTEREST

Deep Learning
Autonomous Vehicles
Computer Vision
Algorithms
Firmware

OTHER INTERESTS

Entrepreneurship
Psychology
History

EXPERIENCE

NORFOLK SOUTHERN | DEEP LEARNING INTERN

Sept 2020 - Current | Atlanta, US | Computer Vision, Deep Learning, ML

- Implemented model to detect missing crucial components under moving rail-cars using Siamese network resulting in improved F1 score.
- Implemented model to detect imperfections on moving rail-car wheels. Extracted wheel region with segmentation and detected anomalies on the ROI.

ROBERT BOSCH | SPECIALIST

April 2018 - May 2019 | Bangalore, IN | Computer Vision, Deep Learning, ML

- Implementation of Object detection and classification on Bosch dataset for Low Speed Automated Driving
- Implementation of free space detection with semantic segmentation

ANYIOT | CO-FOUNDER + LEAD, PRODUCT DEVELOPMENT

June 2016 - Oct 2017 | Bangalore, IN | Computer Vision, Deep Learning, ML

- Designed System Architecture for a Cloud connected IOT product.
- Involved in the back-end server implementation using Ruby on Rails
- Front-end development: data analytics and configuration of IOT hardware.

3D SYSTEMS CORPORATION | SR SOFTWARE ENGINEER

Nov 2013 - Sept 2015 | Goa, INDIA | C++, 3D Printer Firmware, Python

- Designed firmware modules that interact with sensors and drive actuators.
- Implemented Firmware Features: Auto-update, Security, Remote printing, adaptive curing and adaptive motion control for SLA 3D printer.

ROBOTS ALIVE | CORE TEAM MEMBER + SYSTEMS ENGINEER

Aug 2011 - June 2013 | Bangalore, INDIA | Firmware, Android, SolidWorks

- Development of Android Smart-phone powered mobile robot - Andy. Firmware, power management, motion control. communication and debug protocol. Android apps that interact with the Robot over Wifi: e.g. Spy Cam.
- 3 Axis Table top CNC Router. Motion control Firmware and testing.

TATA CONSULTANCY SERVICES | SYSTEMS ENGINEER

Oct 2009 - May 2011 | Pune, INDIA | Web development, CMS

- Content management on Microsoft's CMS for MSN Canada.

COURSES

DEEP LEARNING SPECIALIZATION | COURSERA, STANFORD

Nov 2016 - Jan 2018

Optimization and Regularization techniques, Architectures, ANN, CNN, LSTM, YOLO

MACHINE LEARNING | COURSERA, STANFORD

Nov 2016 - Jan 2018

Linear Models, SVM, Neural Networks, PCA, K-Means, Anomaly detection

SELF DRIVING CAR ENGINEER NANO DEGREE | UDACITY

Nov 2017 - Nov 2018

Traffic signal detection, Lane detection, Vehicle tracking, Behaviour cloning, Classical CV techniques, Kalman filters, PID, Path planning, Localization, ROS