

NISHCHAL J

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EDUCATION

2018-Present	R.V. College of Engineering , Bangalore B.E, CSE	9.63 CGPA (6 Sems)
2016-2018	National Public School Indiranagar , Bangalore 10+2 CBSE	96.6 %
2015-2016	National Center for Excellence , Bangalore Class X	10 CGPA

PROFESSIONAL EXPERIENCE

- Intern, CTO Research, Samsung India** May 2021 - July 2021
Worked as a Research Intern in human action classification using Deep Learning, Computer Vision and Signal Processing concepts in UWB Technology.
- Projects Team Lead, IEEE RVCE** Feb 2021 - Present
In this position I get to build contacts with industry personnel associated with IEEE, Plan and guide students in various technical projects.
- Intern, Wipro – Indian Institute of Science (IISc) (WIRIN), Bangalore** Jul 2020 - Jun 2021
Worked on Integration of Carla Simulator with NS3 network simulator for Autonomous Vehicles to Implement V2V and V2X environment simulation in accordance to DSRC IEEE 802.11 protocols.
- Student Vice Chair, IEEE Computer Society, RVCE** Jul 2019 - Feb 2021
In this position I got to organize and manage various IEEE workshops and seminars for students and tech enthusiasts.
- Module Head, IT Subsystem, Ashwa Mobility Foundation, RVCE** Jan 2019 - Present
In this position, I get to work on building Autonomous Driverless Solutions for Open-Source Formula Student Type Electric Vehicles.
- Research Intern, Indian Space Research Organization (ISRO)** Aug 2020 - Jun 2021
In this position, I got to research and work on Single class and multiclass classification on multispectral and hyperspectral Satellite Image data using models like Segnet and UNET. Worked on implementing a Convolutional Neural Network model for Pansharpening of Multispectral Imagery and a model based on 3D convolutions to perform semantic segmentation on Hyperspectral Imagery.
- Research Intern, Finplex Solutions Pvt Ltd** Jun 2020 - Aug 2020
In this position, I got to research and work on Keypoint detection for Human Foot for Image and Video Feed from mobile devices using Light-Weight HumanPose Estimation models.

PROJECTS

- Near Field Communication (NFC) & Non-Cloneable QR based Product Authentication** Sep 2021 – Current
Working on NFC technology in combination with AI generated non-cloneable QR code used as a two step authentication procedure for differentiating genuine and fake products in markets.
- Allegory: An Android application for Short Stories and Poems Publication** Sep 2020 - Jan 2021
Developed an android app connected to IBM DB2 SQL Database along with Flask APIs hosted on Heroku platform for managing short stories and poems of great authors, poets and publishers.
- Facial Privacy preservation in social media applications** Sep 2021 – Jan 2021
Worked on Adversarial neural networks to generate clones of facial images that could cheat benchmarked facial recognition models thus restoring privacy of an individual
- Flutter application for Clinical Trials Management** Feb 2020 – Jun 2020
Project from SyMetric Tech Ltd to develop a unified centralized mobile application for clinical trials monitoring and management in accordance with ClinicalTrials.gov.

Voice Prescription through NLP

Dec 2019 – Feb 2020

Built a Software which could generate a prescription listing symptoms, diagnosis and treatment for a patient based on the audio conversation between doctor and patient using CLAMP Software.

Cheat Detection model through Computer Vision

Feb 2020 – Mar 2020

Developed a ML model which could detect cheating activities in offline examinations through CCTV live stream using OpenPose model for Human posture analysis, built custom models for classifying the type of cheating activity performed, Facial expression analysis and Facial recognition.

App Development for IoT-Gaming Arcade

Sep 2019 – Jan 2020

Built a mobile application which could trigger a gaming machine arcade after successful payment from the customer using NodeMCU micro-controller, HTTP and FIREBASE cloud service.

Samsung PRISM R&D Project: ARMNN

Aug 2019 – Jan 2020

Open-source contribution to ARM Neural Networks by implementing TensorFlow functions on ARM neural network layers and writing Unit Tests to check the accuracy in their layer implementations.

PUBLICATIONS

Automated Cheating Detection in Exams using Posture and Emotion Analysis - IEEE Xplore, March, 2020

The suggested method makes the process of manual invigilation and cheating detection in offline exams totally automated using posture analysis, emotion analysis and facial recognition. This project was mentored by Dr. Dinesh M.S, Senior Scientist at Philips Research India.

<https://ieeexplore.ieee.org/document/9198691>

Pansharpening and Semantic Segmentation of Satellite Imagery – IEEE Xplore, August, 2021

Two models are proposed in this paper, namely, 3D HyperUNet for Semantic Segmentation of Hyperspectral Imagery using 3D Convolutions, and PansharpNet for pansharpening of multispectral images.

<https://ieeexplore.ieee.org/document/9544725>

Computational Complexity of Gradient Descent Algorithm – IJSER, 2021

This work presents an insight into the different types of Gradient descent algorithms and to determine the effect of factors like learning rate, batch size and number of iterations on the computational complexity of the algorithm.

https://www.techrxiv.org/articles/preprint/Computational_Complexity_of_Gradient_Descent_Algorithm/14544000/1

SKILLS AND CERTIFICATIONS

- **Programming Languages:** C, Python, Java – NPTEL Certified
- **App Development-** Android Studio and Flutter – Coursera Certified
- **Artificial Intelligence** – Machine Learning, Deep Learning, NLP
- **Computer Vision-** OpenCV, **Convolutional Neural Networks**, Image Processing – Coursera Certified
- **Personal:** Adaptive, Self-Learner, Deadline Oriented, Open to constructive criticism, Leadership and Technical Management.

KEY ACHIEVEMENTS

- **Certificate of Excellence for Wipro – Indian Institute of Science (IISC) (WIRIN) project 2021**
- **Certificate of Excellence for Samsung PRISM R&D Project on ARMNN 2019**
- **Outstanding CS Student Chapter Award 2020, IEEE Computer Society, Bangalore**
- **1st Place in Formula Hybrid + Electric Student Competition USA 2021, Ashwa Mobility Foundation**
- **Winners in Academia Category: Intuit Circles CODEATHON 2020 for developing platform to help startups using NLP backend**
- **Runners Up: Govt TechThon 2020, Govt of India for developing Automated Vehicle Fitness Testing software**
- **Secured IEEE Award in NMIT Hackathon Mar 2020 for developing Cheat Detection Software**
- **Finalists in HackNMIT 2021 for developing a social networking platform for Blind, Deaf and Dumb**
- **Secured Elite Certificate in NPTEL Course " Programming In C", was in top 5% of High score, Dec 2018**
- **Secured All India Rank 6 for Mathematical genius Award 2014-15**