

# Nishant Rodrigues

## contact

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## programming

♥ Python  
R, Julia  
C, C++, Java

## softwares

♥ Vim  
Jupyter notebook  
Visual Studio Code  
RStudio

## tools

GitHub, GitLab  
Google Cloud Platform,  
Amazon Web Services,  
Tableau, PowerBI  
Microsoft Office

## operating systems

♥ Linux  
Windows

## database

SQL  
MongoDB  
Firebase

## languages

English fluency  
Hindi fluency

## education

2016–2020 **BTech** in Computer Science with Honours [9.2 CGPA] Vellore Institute of Technology, Vellore  
2013–2015 **Std XII** CBSE [92.3%] CMR National Public School, Bangalore

## research

- 2020 **Archive-Based Swarms** GECCO 2020  
Variation of Fitness-Distance-Ratio Particle Swarm Optimization by implementing policies that govern how an archive may be used in Swarm Optimization.  
Co-author: Dr. Chilukuri K. Mohan, Syracuse University, New York
- 2020 **Incremental Dilations Using CNN for Brain Tumor Classification** Applied Sciences  
Developed an efficient CNN architecture to aid in the classification of Brain tumours from MRI images of the brain.  
Co-authors: Dr. Sanjiban Sekhar Roy, Vellore Institute of Technology, Vellore; Y-h. Taguchi, Chuo University, Tokyo
- Accepted **Smart Lighting for Large Public Spaces** Lecture Notes Series  
Estimating the position and number of users based on the number of Wi-Fi enabled devices tracked using Wi-Fi sniffers to provide automated lighting solutions.  
Co-author: Dr. H.Parveen Sultana, Vellore Institute of Technology, Vellore
- Current **Detection of COVID19 pneumonia from Chest X-ray images**  
Using Deep Learning to classify COVID19 pneumonia from chest X-ray images to aid in the screening of coronavirus patients.  
Guide: Dr. Sanjiban Sekhar Roy, Vellore Institute of Technology, Vellore

## experience

- Current **Associate Data Scientist** iQGateway  
Responsible for developing and implementing patented concepts for an Automated Machine Learning approach that includes pipeline automation and model scoring based on multiple metrics.
- 2018-19 **Data science Consultant** iQGateway  
Part of a team that supports the lead data scientist in a number of projects covering the areas of Image analytics, prediction, and Recommendation engines.
- 2018-19 **Technical Contractor** agora.io  
Responsible for creating technical documentation work for the company, conducting workshops for various student communities in our college and creating demo projects for customers.
- 2018 **Intern and Volunteer** American Red Cross  
Worked on Data science, Web and database. Part of the Leadership Scorecard Project team, aimed to create and analyze metrics and Key Performance Indicators (KPIs) that provide insight into the quality and quantity of efforts in the services.
- 2016-18 **Developer and Mentor** Google Developers Group (Student Chapter)  
Engineered several machine learning solutions and developed innovative applications on a range of topics. Key role as a guide to several members of the community working on other projects and events. Conducted sessions on data science, algorithms and machine learning

## awards talks

2019  
VIT, Vellore  
**Special Achiever**  
In recognition of exemplary performance in International events and meritorious academic performance.

2018  
agora.io  
**Developer of the Year**  
Winner of RTC Conference in Beijing, China and presented with the title of "Developer of the Year"

2020  
**Workshop on Swarm Intelligence Algorithms**  
Presented paper (Archive-Based Swarms) as part of ACM's Genetic and Evolutionary Computation Conference 2020. GECCO 2020

2018  
**Community Sessions**  
Organized monthly community meetups on behalf of agora.io agora.io

2018  
**RTC Conference**  
Speaker at the Real-time Communication Conference. Beijing, China

2017  
**Workshop on DSA**  
Guest speaker on the topic of "Application of Data Structures and Algorithms in Competitive Programming" Vellore Institute of Technology, Amravati

## projects

**Worked on 30 projects over the past 4 and a half years. The ones below have been selected to represent the kind of work done.**

2018  
Angelhacks  
**1<sup>st</sup> - Angelhacks RTC Challenge**  
Winner of Agora.io RTC Challenge during Angelhacks Global Hackathon Series, Bangalore, conducted in partnership with agora.io

2018  
Computer Society of India  
**1<sup>st</sup> - Codespace**  
Placed 1<sup>st</sup> in Codespace hackathon in Devspace conducted by the Computer Society of India.

2018  
IIT, Madras  
**1<sup>st</sup> - Juspay Hyper Hack**  
Placed 1<sup>st</sup> in Juspay Hyper Hack held during Shaastra2018

Fall 2019  
**Decision Support System**  
iQGateway

- A recommendation engine to assist users in selecting the most appropriate learning path of courses, based on features such as Holland code, past experience, educational background etc. Also includes a Cold start engine for new users.
- Wrote the software to create a user-configurable dataset with various parameters and evaluated several approaches with a number of custom algorithms for path and learner based recommendations

Winter 2018  
**Sentiment Analysis** 🌀  
agora.io

- Sentiment analysis is an integral part of understanding human behavior and reactions to conversations. Tracking facial features and muscular reactions to predict a user's emotions in real-time over a live video call.

Fall 2018  
**unSting** 🌀  
Vellore Institute of Technology, Vellore

- An international award-winning drone-based disaster management and recovery platform to track and help people affected by natural disasters.
- Drones collect information through a live stream that is sent to the servers in real time. Using the orientation of the drone and some assumed properties, the geolocation of the affected person is detected by mapping his location in the 2D image to a 3D coordinate using a custom-built algorithm. This data is plotted on a dashboard and sent to a PWA to assist on field search and rescue operations.

Winter 2017  
**OrphanCare** 🌀  
Vellore Institute of Technology, Vellore

- A hackathon winning platform that empowers the public to help orphans and lost children and protect them from abuse. Sensitive data is secured by blockchain; FaceNet is used for facial feature recognition; and cloud computing for big data analytics. The platform can be integrated with You Only Look Once (YOLO) coupled with the GPS location to track and find the children.

## interest

**Triathlon**  
Swim, Bike, Run

**Basketball**  
Represented Bangalore Sporting at the State level

**Cricket**  
Represented Karnataka Institute of Cricket (KIOC)

**Fine arts**  
Oil Pastels; Black and White charcoal

Fall 2017  
**SubConn** 🌀  
Vellore Institute of Technology, Vellore

- A hackathon winning Progressive Web App (PWA) that uses blockchain and a propriety tracking algorithm to prevent system misuse in Producer-Consumer supply chain of government-subsidized goods.
- The algorithm includes a unique forward pass that integrates the tokens with the blockchain to allow for a back propagation to detect and handle errors. The blockchain secures the item transactions and maintains the path followed by each item.

Winter 2016  
**vityBot** 🌀  
Vellore Institute of Technology, Vellore

- A personalized assistant (chatbot) for VIT students.
- Used the BeautifulSoup library to scrape the web and browser automation using Selenium. Set up a state transition model to answer basic queries that do not require Natural Language Processing. Trained and used an NLP model, specifically the NLU model created by RASA.