

# BENEDICT FLORANCE AROCKIARAJ

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## EDUCATION

**National Institute of Technology, Tiruchirappalli, India**

July 2016 - July 2020

**B. Tech. (Honors)** | Computer Science and Engineering | CGPA: **9.47/10** | **2<sup>nd</sup>/104** students

**Core Courses:** Data Structures, Algorithms, OS, DBMS, Networking Protocols, Computer Architecture, Compilers

**Electives:** Probability, Machine Learning, Artificial Intelligence, Image Processing, Data Mining, Soft Computing

**Independent:** Deep Learning Specialization (*Coursera*), CNNs for Visual Recognition (*Stanford Online*)

**Montfort School, Trichy**

June 2014 - May 2016

**Class XII (CBSE AISSCE)** | Computer Science | **96.8%** | *District Topper* | *Best Outgoing Student*

**Class X (CBSE AISSE)** | CGPA: **10/10**

## SKILLS

**Languages:** C/C++ • Javascript • Python

**Web Development:** HTML • CSS • Angular • PHP • Laravel • SQL

**Tools and Framework:** PyTorch • Tensorflow • Git

## PROJECTS

**Areas of Interest:** Machine Learning • Deep Learning • Computer Vision • Software Development

**Unsupervised 3D Human Pose Estimation**

May 2020- Present

*Guide: Prof. Dr. R. Venkatesh Babu | VAL Lab, IISc, Bangalore*

- Working on a kinematic-structure-preserved unsupervised 3D pose estimation framework to effectively disentangle pose, foreground and background appearance information on Human3.6M, MPI-INF-3DHP, LSP, Youtube and 3DPW datasets

**Ensemble-based Endoscopy Artefact Detection**

Jan 2020 - May 2020

*Guide: Prof. Dr. R. Leela Velusamy | NIT, Trichy*

- Achieved an mAP of 0.3405 by proposing an ensemble of RetinaNet-based object detectors to localize bounding boxes and predict eight artefact classes that generalizes to inter-patient, multi-tissue and multi-modal corpus of endoscopy video data

**Unsupervised Deep Domain Adaptation for Object Detection**

May 2019 - Aug 2019

*Guide: Prof. Dr. Eric Granger | LIVIA, ETS, Montreal, Canada*

- Analyzed how local features, distribution gap metrics and temporal information from trackers can be leveraged in generalizing unsupervised domain adaptation approaches to perform effectively on face-detection datasets like SCUT and Widerface

**Highlights Generation for Broadcast Cricket Videos**

Sept 2018 - Dec 2018

*Guide: Prof. Dr. E. Sivasankar | NIT, Trichy*

- Employed video frame segmentation, replay and scoreboard detection on our newly constructed dataset of IPL cricket videos. Studied the real-world implementation by interviewing the CEO of Chennai Super Kings and other domain experts

**Indian Flora Project**

May 2018 - July 2018

*Guide: Prof. Dr. C. V. Jawahar | CVIT, IIIT, Hyderabad*

- Achieved a top-5 precision of 96.90 by transfer learning on various CNN models using our Indic-Leaf dataset of 112 plant species for plant identification and disease detection. Deployed a plant species querying web-portal using Angular and NodeJS

**MDecoder**

Feb 2018 - April 2018

*Pragyan, the technical festival of NIT Trichy | Spider, NIT Trichy*

- Developed the online math challenge MDecoder in Angular and Laravel environments by using foolproof algorithms for authentication, time-based scoring, question generation and submission validation that witnessed over 1000 participants

**Electric Multiple Unit (EMU) Production Application**

Dec 2017 - Feb 2018

*Indian Railways | Integral Coach Factory, Chennai*

- Built the backend for digitizing the records of inventory management and production planning for the coaches and rakes. Wrote APIs in Laravel to handle authorization across Web and Android clients used by over 500 employees of ICF, Chennai

## LEADERSHIP AND EXTRA-CURRICULARS

- Led 60+ members of the Workshops and Informals team of **Festember**, the cultural festival of NIT Trichy and chaired the **Rolling Reels Film Festival**, thereby engaging a footfall of 15,000 students from 250+ institutes across India (2019)

- Active member of the web-team and ML group of **Spider**, the research and development club of NIT Trichy (2017-2020)

- Taught school children from marginalized communities at **Illuminate**, a government-certified charitable trust (2017-2020)

- Served as the **Institute Student Mentor**, organizing orientation events and mentoring the institute freshmen (2017)

## AWARDS

- Received the prestigious **Vector Scholarship in Artificial Intelligence** from the Vector Institute, Toronto (2020)

- Secured the coveted **Mitacs Globalink Research Internship** award to perform research at LIVIA, ETS Montreal (2019)

- Awarded the **Indian Academy of Sciences' Research Fellowship** to conduct research at CVIT, IIIT-Hyderabad (2018)

- Placed as one of 20 semi-finalists from India for the **Cargill Global Scholars Program** for leadership development (2018)