

BENEDICT FLORANCE AROCKIARAJ

benedictflorance.a@gmail.com ♦ +91 99945 91883

[Website](#) ♦ [LinkedIn](#) ♦ [GitHub](#)

EDUCATION

National Institute of Technology, Tiruchirappalli, India

B.Tech (Hons.) in Computer Science and Engineering

Minor in Economics

July 2016 - Present

CGPA: **9.48/10**

Montfort School, Trichy

Class XII All India Senior School Certificate Examination 2016

Class X All India Secondary School Examination 2014

May 2016

96.8%

CGPA: **10/10**

AREAS OF INTEREST

Machine Learning, Deep Learning and Computer Vision

SCHOLASTIC ACHIEVEMENTS

- Recipient of the prestigious **Mitacs Globalink Research Internship Award - 2019** to work under **Prof. Dr. Éric Granger** at École de technologie supérieure, Montréal (Université du Québec).
- Recipient of the prestigious **Indian Academy of Sciences' Summer Research Fellowship - 2018** to work under **Prof. Dr. C. V. Jawahar** at International Institute of Information Technology, Hyderabad.
- Currently **ranked** among the **top 5** of the **102 students** in the CSE Department, NIT Trichy.
- Awarded the **Google India Challenge Scholarship** for the Web Specialist track.
- Among the 20+ **semi-finalists** from India for the **Cargill Scholars Program** for leadership development.
- Secured **first place** in the district of Trichy in the CBSE Class XII **AISSCE** 2016.
- Awarded the **Best Outgoing Student** of Montfort School, Trichy for the academic year 2015-16.

RESEARCH EXPERIENCE AND PROJECTS

Unsupervised Domain Adaption for Object Detection

Guide: Prof. Dr. Éric Granger

May 2019 - Present

ETS, Montreal

- Working on an unsupervised, still-image to videos domain adaptation by leveraging the temporal coherence of the videos from the target domain with the help of a tracker.
- Vulnerabilities of the existing adaptation approaches that use FasterRCNN on Cityscape, Foggy Cityscape and SIM10k are shown by performing ablation studies on new datasets like SCUT-A, SCUT-B and Widerface.

Highlights Generation and Player Analysis for Broadcast Cricket Videos August 2019 - Present

Guide: Prof. Dr. Rajeswari Sridhar

NIT, Trichy

- Employed video frame segmentation and replay detection on a newly constructed dataset of IPL cricket videos. Working on a video classification network for events like boundaries, sixes, wickets and milestones.
- A study on the real-world implementation of sports analytics was done by interviewing personalities like Mr. K.S. Viswanathan, CEO of Chennai Super Kings, an Indian Premier League (IPL) team and other experts.

Indian Flora Project: Social Image Data Based Plant Species Identification and Disease Detection using Deep Learning

Guide: Prof. Dr. C. V. Jawahar

May 2018 - July 2018

IIIT, Hyderabad

- Employed various CNN architectures on PlantCLEF dataset and on our newly constructed dataset of 100 Indian plant species for identification and disease detection with observations showing high top-5 precision.

- Deployed a collaborative web-portal using Angular and NodeJS and an Android mobile application where users can add new observations to the catalogue and query for species identification.

MDecoder

Feb 2018 - April 2018

Pragyan, techno-managerial festival of NIT Trichy

Spider, NIT Trichy

- Developed the online math challenge MDecoder using ReactJS, Laravel and hosted in Docker environment.
- Implemented efficient, foolproof algorithms for authentication, time-based scoring, question generation and submission validation. The contest witnessed over 500+ contestants and 25,000+ submissions.

Web Development Intern

Dec 2017 - Feb 2018

Indian Railways

Integral Coach Factory, Chennai

- Developed the backend for digitizing the records of inventory management and production planning for the coaches and rakes. Wrote API's in Laravel to handle authorization across Web and Android clients. The Android app has been released on Google Play Store and is used by 500+ employees of ICF, Chennai.

Smart Health Care System

Oct 2017 - Dec 2017

Guide: Prof. Dr. E. Sivasankar

Pragyan Hackathon, Bangalore

- Wrote APIs for an Android app and implemented machine-learning models to predict disease risks based on symptoms and recommend future course of action as a collaborative pipeline between doctors and patients.

RELEVANT COURSES

- **Computer Science** - Discrete Structures, Data Structures, Algorithms, Combinatorics and Graph Theory, Programming Languages, Software Engineering, Computer Organization, Computer Architecture, Operating Systems, Automata and Formal Languages, Compilers, Cryptography, DBMS, Data Warehousing and Data Mining, Machine Learning, Soft Computing, Artificial Intelligence and other core courses.
- **Mathematics** - Higher Engineering Mathematics, Probability Theory, Principles of Operations Research
- **Independent Coursework** - Machine Learning (*Stanford University/Coursera*), Computer Vision (*Mubarak Shah/UCF*), Machine Learning with TensorFlow (*Coursera*), CNNs for Visual Recognition (*Stanford Online*)

TECHNICAL STRENGTHS

Languages, Software and Tools	C/C++, Python, JavaScript, git, MATLAB, GNU Octave, L ^A T _E X
Libraries	TensorFlow, Pytorch, Caffe, NumPy
Web Development	HTML, CSS, Angular, PHP, Laravel, Node.js, MySQL, MongoDB

POSITIONS OF RESPONSIBILITY AND EXTRACURRICULARS

- **Machine Learning Enthusiast and Web Developer**, *Spider, the Research and Development club*: Built the institute websites for mess and hostel room allocation and tech-fest contests. Involved in interdisciplinary research projects, knowledge sharing sessions, hackathons, coding contests and open-source projects.
- **Instructor and Organizer**, *Technical Workshops*: Conducted introductory web and game development, machine learning workshops to the institute freshmen and students from various institutes across the state.
- **Head, Workshops and Informals**, *Festember, the cultural festival of NIT Trichy*: Leading a team of 80 members to organize workshops, informal events and South India's largest student-run short film festival "Rolling Reels Film Festival" engaging a footfall of over 15000 students from 250+ institutes across India.
- **Institute Student Mentor**, *Orientation Team*: Organized orientation events and lectures by eminent personalities for 900+ freshmen, mentored 10 freshmen helping them get accustomed to the institute life.
- **Instructor and Volunteer**, *Illuminate*: a government-certified charitable trust whose aim is to provide a wholesome education in Math, English and Moral Values to children from marginalized communities.
- **Volunteer**, *National Service Scheme(NSS)*: Completed two years of social service through plantation drives, awareness campaigns and orphanage visits.