BENEDICT FLORANCE AROCKIARAJ

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EDUCATION

University of Pennsylvania *(MSE in Computer and Information Sciences)*   *August 2021 - Present*

Current Courses: Advanced Machine Perception, Artificial Intelligence, Computational Linguistics

Teaching: Applied Machine Learning, Mathematical Foundations of Computer Science

National Institute of Technology, Trichy   *July 2016 - July 2020*
B. Tech. (Honors) in Computer Science and Engineering   *CGPA:* **9.47/10** | **2nd**/**104** *students*

Relevant Courses: Probability, Machine Learning, AI, Image Processing, Data Mining, Soft Computing

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

SKILLS

Languages and Web Development: C/C++ • Javascript • Python • HTML • CSS • Angular • PHP • Laravel • SQL

Tools and Frameworks: PyTorch • Tensorflow • OpenCV • Numpy • Git • Docker • Google Cloud • AWS

EXPERIENCE

Infilect *(AI & Computer Vision based SaaS startup)*   **Bangalore, India**
Machine Learning Engineer (Full Time)   *Nov 2020 - July 2021*

• Developed algorithms for challenging problems of the retail sector exploiting self-supervised learning, object detection, fine-grained classification, text detection for FMCG brands like Britannia, ITC, Kimberly Clark, P&G, Coke and Carlsberg

Indian Institute of Science *(VAL Lab)*   **Bangalore, India**
Research Intern | Guide: Prof. Dr. R. Venkatesh Babu   *May 2020 - August 2020*

• Worked 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

University of Quebec *(LIVIA Lab, ETS Montreal)*   **Montreal, Canada**
Visiting Research Scholar | Guide: Prof. Dr. Éric Granger   *May 2019 - Aug 2019*

• 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, Widerface

International Institute of Information Technology *(CVIT Lab)*   **Hyderabad, India**
Summer Research Fellow | Guide: Prof. Dr. C. V. Jawahar   *May 2018 - July 2018*

• 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, NodeJS

Indian Railways *(Integral Coach Factory)*   **Chennai, India**
Software Development Intern   *Dec 2017 - Feb 2018*

• 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

PROJECTS

Ensemble-based Endoscopy Artefact Detection *(Bachelor's Thesis)*   *Jan 2020 - May 2020*

• Proposed an ensemble of RetinaNet-based object detectors to accurately localize bounding boxes and predict eight types of artefact classes that generalizes to an inter-patient, multi-tissue and multi-modal corpus of endoscopy video frames

Highlights Generation for Broadcast Cricket Videos   *Sept 2018 - Dec 2018*

• 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

MDecoder *(Pragyan, the technical festival of NIT Trichy)*   *Feb 2018 - April 2018*

• 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

AWARDS

• Received the prestigious **Vector Scholarship in Artificial Intelligence** from the Vector Institute, Toronto
• Secured the coveted **Mitacs Globalink Research Internship** award to perform research at LIVIA, ETS Montreal
• Awarded the **Indian Academy of Sciences' Research Fellowship** to conduct research at CVIT, IIIT-Hyderabad
• Placed as one of 20 semi-finalists from India for the **Cargill Global Scholars Program** for leadership development