Nithin Sudarsan

Bangalore, Karnataka, India
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Education

Bachelor's in Computer Science and Engineering — Aug 2019 – Apr 2023
Dayananda Sagar College of Engineering, Bangalore, India — CGPA: 9.05/10
Affiliated to Visvesvaraya Technological University

Grade 12 — Apr 2018 – Mar 2019
Sri Chaitanya PU College, Mangalore, India — Score: 84.66%
Department of Pre-University Education, Bangalore, India

Grade 10 — Jun 2016 – Jun 2017
Sharada Vidyalaya, Mangalore, India — CGPA: 9.2/10
Central Board of Secondary Education, Delhi, India

Research Experience

Patient Monitoring System — Oct 2022 - Apr 2023
Dayananda Sagar College of Engineering — *Bangalore, IN*

- Worked under the supervision of Dr. Ramesh Babu D R.
- Investigated deep learning approaches for automated pain detection through facial expressions, especially to help patients with communication impairments.
- Contributed through extensive data pre-processing that involved face detection and cropping, HSV colour-space conversion for enhanced muscle detection, data augmentation, and image normalization for VGG model compatibility.

Publications

A Relative Analysis of Machine Learning based approaches to Detect Human Pain Intensity using Facial Expressions
IEEE ICAECIS, Bangalore Institute of Technology — *Apr 2023*

Work Experience

Software Development Engineer — Sep 2023 - Apr 2025
Perfios Software Solutions — *Bangalore, IN*

- Provisioned complex business requirements into technical solutions with requested data-points for **40+ financial institutions**, majorly for **international clients**.
- Improved transaction success rates by **14%**, significantly **minimising turnaround time and system failures**.
- Optimised lending decision algorithms, reducing loan processing time by **30%** using **enhanced salary analysis**.
- Working closely with cross-functional teams, including **product management**, **QA**, and **DevOps**, to deliver high-quality analysis reports.
- Member of the Insights team, contributing ∼**40-45%** of **Perfios' total revenue** through data-driven solutions.
- Mentored new hires through **code reviews** and **pair programming** sessions, helping them understand the team's complex data analysis code-base and providing guidance on their assigned tasks.

Software Development Intern — Mar 2023 - Sep 2023
Perfios Software Solutions — *Bangalore, IN*

- Developed a **full-stack API playground** using **Java Spring Boot** and **OpenAPI** specifications, enabling users to explore and test company APIs through an interactive portal.
- Built and deployed a **Java library** for efficient **JSON/XML to Java bean mapping** with **CI/CD pipeline**, published on **GitHub packages**.

Technical Projects

CNN from Scratch | *Python, Numpy, Scipy* *Link*

- Independently implemented a full **Convolutional Neural Network** from first principles using **NumPy** and **SciPy**, diving deep into the mathematical mechanics of neural network design to understand the fundamental computational processes behind modern deep learning techniques.

Javelin Throw Analysis | *Python, MediaPipe, OpenCV* *Link*

- Worked under the supervision of Dr. Shashidhar G. Koolagudi from **National Institute of Technology, Karnataka**, implementing **Google's MediaPipe Pose** framework to track athletes' body positions during javelin throw, focusing specifically on approach and release phases to enhance performance analysis.

Handwritten Digit Recognizer | *Python, Keras, scikit-learn* *Link*

- Developed a handwritten digit recognition system using **Convolutional Neural Networks**, trained on the **MNIST Dataset** and validated with **personal handwritten samples**, achieving **96%** test accuracy due to its specialized architecture that effectively extracts and processes image features through convolution, pooling, and flattening layers.

Malaria Cell Detector | *Python, Keras, scikit-learn* *Link*

- Developed a deep learning model for **malaria detection** from cell images, training on a dataset of 22,600 images processed through **Histogram of Oriented Gradients (HOG)** feature extraction. The model achieved **80.3%** validation accuracy in distinguishing between healthy and infected cells using a five-layer architecture.

Technical Skills

Languages: Python, C++, R, Java, Scala, LaTex, SQL, HTML, CSS, Javascript
Frameworks: Tensorflow, Keras, Scikit-learn, Numpy, Pandas, Spring Boot, Sveltekit, MediaPipe, OpenCV
Databases: MySQL, MongoDB, Supabase
Technologies: Git, Github Actions, Github Packages, Docker

Courses and Certifications

- **Machine Learning** authorized by **Stanford Online**, offered by Coursera. *28 Nov 2024*
- **Architecting with Google Compute Engine** authorized by **Google**, offered by Coursera. *20 Sep 2022*
- **MuleSoft Certified Developer - Level 1** offered by **MuleSoft**, **Salesforce**. *23 Jun 2022*
- **Networking with Cisco Router & Switch** offered by SANSBOUND, Chennai. *27 Sep 2021*
- **Python Programming and Data Exploration in Python** Offered by **NIIT**. *24 Jun 2020*

AWARDS AND RECOGNITION

- Participated in the Project Open Day and won **Best Project Presentation Award** among 71 competing teams at **Dayananda Sagar College of Engineering**. *10 Jun 2023*
- Participated in a **Traffic Awareness Campaign** organized by Crime Control Force in Bangalore, demonstrating community engagement and social responsibility. *26 Feb 2023*
- Second Runner Up in **Equal Minds Ideathon** Contest held by **MindTree**, winning a cash prize of **INR 50,000.** *12 Mar 2022*