
Technical Skills

Languages: Python, C, C++, SQL | **Tools:** PyTorch, Tensorflow, Pandas, Scikit-learn, OpenCV, Flask, Git, Linux, Docker

Machine Learning and Data Science: Web Scraping, Data Wrangling, Data visualization, Regression, Classification

Education

- **Manipal Academy of Higher Education – Manipal Institute of Technology** Manipal, India
Bachelor of Technology in Electronics and Instrumentation Engineering | CGPA 8.44/10 July 2018 – June 2022
Minor Specialization: Computational Intelligence
Relevant courses: Machine Learning, Soft Computing Techniques, Artificial Intelligence, Computer Vision, Data structures using C++, Real-Time Operating Systems, Networking with TCP/IP, Introduction to Linux and Shell Scripting.

Research Publications

- Authored a paper titled – *AlterNet-K: a small and compact model for the detection of glaucoma*, 2023. Published in Biomedical Engineering Letters (BMEL) [DOI: 10.1007/s13534-023-00307-6](https://doi.org/10.1007/s13534-023-00307-6)
- Authored a paper titled – *Localization of Lung Abnormalities on Chest X-rays using self-supervised Equivariant Attention*, 2022. Presented at the 20th Asian Oceanian Congress of Radiology and 78th Conf. of the Korean Society of Radiology. Published in Biomedical Engineering Letters (BMEL) [DOI: 10.1007/s13534-022-00249-5](https://doi.org/10.1007/s13534-022-00249-5)
- Co-authored a paper titled – *Modified crop health monitoring and pesticide spraying system using NDVI and Semantic Segmentation: An AGROCOPTER based approach*, 2021. Presented at the 2021 IEEE International Conference on Autonomous Systems (ICAS) [DOI: 10.1109/ICAS49788.2021.9551116](https://doi.org/10.1109/ICAS49788.2021.9551116)

Experience

- **Royal Datamatics Pvt Ltd (BlueKaktus)** Bangalore, India
AI Specialist July 2022 – Present
 - Developing and deploying backend components of a Vendor Managed Inventory (VMI) tool based on client requirements, proficiently troubleshooting functionality issues in new/existing features built using Flask, Redis, and MongoDB in a Linux environment.
 - Optimized the sales rate computation algorithm of the VMI tool, decreasing processing time from hours to minutes. Redesigned MongoDB database and implemented multiprocessing for 8x faster file creation in a forecasting module.
 - Designed and implemented a CV solution using Hugging Face Transformers and Tesseract OCR to automatically read and filter data in lengthy Garment Tech Packs of varying visual formats and present essential costing information of raw materials in a structured tabular form, reducing manual effort.
 - Designed and deployed a CV solution using PyTorch and Flask to assign 7 descriptive tags to a garment from a single image while ensuring robust performance (0.82 F1 score) across varying image quality, human models, and poses.
- *Software Engineering Intern (Remote)* March 2022 – June 2022
 - Designed and deployed a robust reverse image search feature using Tensorflow in an existing inventory system, enabling clients to search for similar garments in the database using images or by providing URLs to images.
 - Worked on and maintained a costing engine that generates a probable component-wise cost breakdown of a hypothetical garment described by the user using natural language. Upgraded text filtration module with fuzzy algorithms to increase robustness to inflections and minor typos.

Projects

- **Glaucoma Detector** / Python, PyTorch, Streamlit May 2022
 - Developed a web application to run multiple custom Deep learning models based on ResNet and ViT to detect the presence of Glaucoma in retinal fundus images and visualize model predictions with heat maps locally using a browser.
- **Anime Face Generator** / Python, PyTorch September 2021
 - Implemented a Deep Convolutional Generative Adversarial Network (DCGAN) model to generate faces of anime characters from random noise sampled from a standard normal distribution.

Leadership / Extracurricular

- **Management Committee Member, Astronomy Club Manipal** 2019
 - Organized an Astro Exhibition, facilitated a program, and taught juniors to present scenarios in a simulator.
 - Organized a local beach cleanliness drive, coordinated with authorities, mobilized volunteers, and managed logistics for the event's success.