



KIRTHIK M

B.Tech - Instrumentation and Control Engineering

Gender: Male

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Educational Qualification

Year	Degree/Examination	Institution/Board	CGPA/Percentage
2022-Present	B.Tech- ICE	NIT, Trichy	9.66
2022	Class XII	The Indian Public School, Coimbatore, CBSE	94.6%
2020	Class X	The Indian Public School, Coimbatore, IGCSE	93.5%

Academic Achievements

- Received the **S J Chainulu Medal of Excellence**, for standing **Department Rank 1**, 1st Year.
- KVPY Scholar 2022**, secured admission to **IISc Bangalore**.
- Pragyaan **Startup Hackathon Runner up** among **250+** teams over India proposing an **Agri-Tech** Startup.
- 2x International Mathematics Olympiad Gold Medallist**, school level, conducted by **SOF**.

Internship Experience

- Robert Bosch Center for Cyber-Physical Systems, IISc Bangalore:** May 2024 - Jul 2024

Worked as a research intern under **Prof. Shishir NY Kolathaya**, affiliated with the department of **Computer Science and Automation**. The internship involved conducting research on quadruped **robotic systems**, with the aim of realising **locomotion** on challenging terrains using **Deep Reinforcement Learning**, building upon work conducted by groups from **ETH Zurich, MIT and UC Berkeley**. I focused particularly on using **vision** to train **RL policies** for legged locomotion.

Projects

- Extreme Parkour – Can robots dance ?** Mar 2024 – Jun 2024

- Developed and integrated a **scalable software pipeline** for training a **legged robot system**.
- Built the system with **modularity**, allowing for easy adaptation of **reinforcement learning** methods.
- Utilized **Nvidia's IsaacGym** for simulations and **Python for scripting** the training environment.
- Designed the **software architecture** to incorporate a Markov Decision Process (MDP) framework and implemented **Dynamic Programming** techniques, specifically the Bellman equations.

Technologies Used: Python (for software development and scripting), IsaacGym, PyTorch, Numpy, Git (version control), Docker (containerization for environment consistency)

- **CLIP (Contrastive Language-Image Pretraining)**

Jan 2024 - Mar 2024

- Developed a CLIP-based system for **image classification** with an emphasis on scalability and future integration into a **web platform**.
- The system was built using **Object-Oriented Programming (OOP)** principles, ensuring maintainable and extensible code.
- Trained the model on a **curated dataset** of images and textual descriptions, with **preprocessing** and **fine-tuning** techniques implemented to optimize accuracy.
- **Later plans** include developing a **web interface** with a **RESTful API** that allows users to upload images, interact with the model, and **view classification results dynamically**.

Technologies Used: Python (OOP, scripting), Numpy, Pandas, PyTorch (model training), Git

- **Are You Loyal ? – Advanced Customer Churn Prediction**

Sep 2023 – Dec 2023

- Developed a **predictive model** for customer churn using the **Telco Customer Churn** dataset.
- Performed **data preprocessing**, feature engineering, and various other **optimisation** techniques.
- Trained multiple machine learning models like **Logistic Regression**, **Random Forest**, **Gradient Boosting**, and **XGBoost**, along with **hyperparameter** tuning.
- The model works successfully with an **accuracy** of **88.38%**.

Technologies Used: Python (Scripting), Matplotlib, Seaborn (Data Visualisation), Scikit-learn, XGBoost

Technical Skills and Certifications

- Programming Languages : C, C++, Python, SQL
- Other Software : Microsoft Office, Visual Studio, Git, Github, Jupyter Notebook
- Operating Systems : Windows
- Machine Learning Tools : Scikit-Learn, PyTorch, TensorFlow, Numpy, Pandas, IsaacGym
- Certifications : Getting started with **Competitive Programming** (NPTEL : Ongoing)

Positions of Responsibility

- **Machine Learning Researcher and Software Developer, Spider R&D:** Aug 2023 – Present
Part of **Spider R&D**, the Research and Development club of NIT Trichy. Involved in **development** and **research** in the domain areas of **Computer Science**, **Machine Learning**, **Deep Learning** and **Robotics**.
- **Part of Festember Media Relations in the following capabilities:**
 - **Manager** Nov 2023 – Present
Working as a Manager of **Festember Media Relations**, the national level cultural festival of NIT Trichy, **promoted** from **Deputy Manager**. Dealing with the **biggest** brands of **Festember 24'**. Signed **7** crucial media partnerships with **prominent** media outlets.
- **Coordinator, Marketing, NITTFEST:** Jan 2023 – April 2023
Worked as a Coordinator of Marketing Team of **NITTFEST**, the intra-collegiate cultural festival of NIT Trichy. Directly involved in signing the partnership deals of the biggest brands, including **boAt**.

Extracurricular Activities

- School Cricket Team **Captain** 18'-20'.
- School Football **Core player** and **Captain** 2012-2022'.
- Runner up in **Football Men**, **Captaining** the team in Aaveg'23 – organised by **NIT Trichy**.
- Classical **Pianist**, having completed **Grade 5 Trinity** theory examinations.