

Pursuing a **Minor Degree in Artificial Intelligence & Data Science** by **C-MInDS Department, IIT Bombay**

## WORK EXPERIENCE

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### Software Engineering Intern | Magyk.AI

[May '24 - Aug '24]

*Received Letter of recommendation from CTO for exemplary performance*

- Contributed to development of an AI video generator product from scratch, integrating APIs like **OpenAI & Elevenlabs**
- Developed robust pipeline in **TypeScript**, integrating APIs for audio, subtitle, and image generation to generate AI videos
- Used **FFmpeg** to ensure precise synchronization and seamless integration of audio, subtitles, image and scene transitions
- Designed and deployed a **Discord Bot**, improving user experience and enabling seamless video generation & remixing

## KEY PROJECTS

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### Ranking Algorithm Using Gradient Descent | Course Project

[Jan '24 - May '24]

*Guide: Prof. P Balamurugan | Dept. of IEOR, IIT Bombay*

- Researched and implemented **RankNet**, a neural network model for ranking documents on the **LETOR 4.0 dataset**
- Achieved a **0.52 NDCG score** by optimizing using **L2 regularization**, varying architectures and fine-tuning hyperparameters
- Implemented a **custom loss function** using **NDCG@** to directly optimize ranking metric, **improving NDCG score to 0.56**

### Hybrid Customer Churn Prediction Algorithm | Course Project

[Jan '24 - Apr '24]

*Guide: Prof. P Balamurugan | Dept. of IEOR, IIT Bombay*

- Performed detailed EDA on the Telecom-Customer-Churn dataset to extract insights driving customer churn prediction
- Implement Logit Leaf- A hybrid **decision tree & logistic regression model**, resulting in **AUC score of 0.79** and **TDL of 2.8**
- Implemented a hybrid model of **decision tree & SVM** - Support Leaf model, achieving a **AUC score of 0.68** and a **TDL of 2.6**

### Automated Sales Outreach Using LLM | Self Project

[Jul '24]

- Developed a proof of concept to automate **sales outreach** by generating tailored marketing emails using **Gemini API**
- Integrated web scraping with **Beautiful Soup** to extract and analyze data from LinkedIn for enhanced email personalization
- Developed a user-friendly interface to manage automated generated emails, enhancing user control and reporting capabilities

### Algorithmic Trading | ITSP | Institute Technical Council

[May '23 - Jul '23]

- Analyzed candlestick patterns and swing trading strategies using indicators **Moving Average, Bollinger Bands, RSI, etc**
- Backtested trading strategies such as **trend following** and **mean reversion** on the **top 10** companies by market cap
- Developed an automated trading system using **Angel Broking's Smart API** for real-time market data and trade execution

## POSITION OF RESPONSIBILITY

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### Software Engineer | Raskhak, IIT Bombay

[Jan '23 - Jan '24]

*Rakshak is an IIT Bombay student technical team to develop UAVs for search & rescue operations*

- Fine-tuned **YOLOv8** for aerial object detection of cars, humans, buildings using a customized **DOTA** and **xView** dataset
- Performed letter/shape recognition and segmentation on the **SUAS** dataset using **DenseNet** and **Segment Anything Model**
- Used **Gazebo, RViz, and Cartographer** to simulate **SLAM**-based environment mapping and localization for a virtual robot

### Events & PR Coordinator | E-cell, IIT Bombay

[Jul '22 - May '23]

- Led the execution of **FInCoF**, bringing **120+** startups aboard and providing **90+** internships to eligible students
- Spearheaded **Get Set Pitch**, a competitive pitching event including a workshop joined by **400+** participants and **5+** speakers
- Actively involved in ideation and execution of **Founders Garage**, providing opportunities to **300+** startup enthusiasts

## SKILLS & COURSES

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Programming languages	Python, C++, Matlab, JavaScript, TypeScript
Libraries/Framework	NumPy, Pandas, Matplotlib, Scikit-Learn, PyTorch, TensorFlow, OpenCV
AI & Data Science Courses	1. Machine Learning: Principles and Techniques 2. Data Analysis and Interpretation 3. Computer Programming & Utilization 4. Probability and Stochastic Process

## EXTRA-CURRICULARS

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- Selected as one of the top teams in **Tower Research's Data Science** Challenge, earning an exclusive team session invitation
- Secured **3rd** prize in **Strategy Wars**, organized by the Finance Club, where participants allocated portfolios across sectors
- Part of the **winning team** in a 10-team cricket tournament conducted by the MMA council, was **top** wicket-taker
- Secured **2nd** place in **FIFA Esports** competition conducted by MMA council with Dortmund Team.
- Participated in a team of 4 in a 2-month-long **RC-plane** making competition conducted by the Aeromodelling Club
- Passionate about stock market. Active investor and swing trader in **equity market** since 2 years
- Led the **winning team** in EnB Buzz, a Business Model competition organized by the E-Cell of IIT Bombay