



Mratunjay Singh

Roll No.:12210380

Masters of Technology

Mechatronics Engineering

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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
M.Tech. (MTE)	Indian Institute of Technology, Bhilai	9.57 (Current)	2022-Present
B.Tech. (EE)	Kamla Nehru Institute of Technology, Sultanpur	8.44	2018-2022
Senior Secondary	Jugal Devi Saraswati Vidya Mandir, Kanpur	89.4%	2017
Secondary	Jugal Devi Saraswati Vidya Mandir, Kanpur	9.6	2015

PROJECTS

- AAS(Agricultural Assistance System): Disease Classifier** Jan. 2022 - Present
Under Dr. Nitin Khanna Github
 - Leveraged SAM (Segment Anything Model) for precise Instance Segmentation of leaf part and applied Transfer Learning and Fine-tuning with VGG16, VGG19, InceptionV3, ResNet50, MobileNetV3, and DenseNet121 CNN Architectures for leaf classification.
 - Evaluated system robustness by applying Mean, Median, Motion Blur, Rainy, and Salt & Pepper noise Filters.
 - Developed highly accurate plant disease classifier with excellent F1 Scores on diverse datasets.
- BigMart Sales Prediction** May. 2022
Independent Project
 - Employed machine learning models, such as Linear Regression, Decision Tree, Random Forest, and XGBoost Regressor, to forecast sales and optimize inventory management.
 - Utilized data analysis techniques and evaluated model performance to improve sales forecasting accuracy, resulting in cost savings and informed decision-making.
- Bank Note Analysis** May. 2022
Independent Project
 - Applied SVM (linear and rbf kernel), Random Forest, K-Nearest Neighbors, and MLP Classifier to detect and classify genuine and fake notes.
- Stock Market Clustering** May. 2022
Independent Project
 - Utilized pandas-datareader to extract live stock market data, performed K-means clustering on DataFrame to identify similarities among companies based on their stock prices.
- Web Scraper for Wikipedia, and a Bookstore Website** May. 2022
Independent Project
 - Implemented a scalable and efficient web scraping solution using Python libraries BeautifulSoup, Requests, Selenium, and Scrapy. Extracted data from diverse sources, including Wikipedia, and a bookstore website.

KEY COURSES TAKEN

- Data Structure, Algorithms, Data Analytics
- Machine Learning, Deep Learning
- Digital Image Processing, Computer Vision

TECHNICAL SKILLS

- **Programming:** Python, JavaScript
- **Tools & OS:** Git, Docker, HTML, CSS, Flask, Jupyter Notebook, VS Code, SQL, Power BI, Web Scraping, Google Colab, Google Sheets, Google App Script, LaTeX, Windows
- **Libraries/Frameworks:** Pandas, Numpy, Matplotlib, Scikit-learn, Tensorflow, and PyTorch

CERTIFICATIONS

- Master the Coding Interview: Data Structures + Algorithms by Andrei Neagoie on Udemy
- Machine Learning Specialization by Andrew Ng on Coursera
- NPTEL Certification in Data Analytics using Python

POSITIONS OF RESPONSIBILITY

- **Senate, IPGC, and IAGRC PG Students' Representative** *Present*
Institute-level committees to address the issues related to academics
 - Nominated Member of Institute Senate, Institute Post Graduate Committee, and Institute Academic Grievance Redressal Committee
- **Student Mentor in SMP** *Mar. 2023 - Aug. 2023*
Student Mentorship Program for Freshers
 - Mentored students and facilitated seamless onboarding at IIT Bhilai, while also efficiently managing events for smooth orientation.
- **TA for course DIP** *Jan. 2023 - May. 2023*
Teaching Assistant of the course Digital Image Processing under Dr. Nitin Khanna
 - Managed a class of 86 students, working on Google App Script to automate a few tasks of Google Sheets, and other responsibilities.

ACHIEVEMENTS

- **Top 2%** among 7,860 students in Data Analytics using Python by NPTEL certification course *2023*
- **Qualified GATE with Good Ranks** Electrical Engineering: 2307 and Instrumentation Engineering: 680 *2022*

HOBBIES AND INTERESTS

- Playing Brain Games, Reading Books and Newspaper
 - Travelling, Watching Movies and Series
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