Karthikeya Patnala

Indian Institute of Technology, Goa

Third Year **Undergraduate**, **Electrical Engineering**
Address: Chintalapudi, Andhra pradesh, India.
E-mail: **patnala.karthikeya.21042@iitgoa.ac.in**
Mobile: **9390745578**
LinkedIn: **linkedin.com/karthikeyapatnala**
Github: **github.com/KarthikeyaPatnala21**

Education

Class 10, SSC, Bhashyam school, Chintalapudi	Aggregate: **97** %	2018 – 2019
Class 12, BSEAP, Narayana Institutes, Vijayawada	Aggregate: **84.2** %	2019 – 2021
BTech, Electrical Engineering, Indian Institute of Technology Goa	CGPA : **5.41/10**	2021 – Present

Experience

Data Science and Business Analytics Intern, *The Sparks Foundation*   (Jan 2024 – Feb 2024)
- Conducted comprehensive data analysis on over **30,000 transactions**, developing algorithms that enhanced product positioning and optimized stock levels, leading to a **9%** increase in profit margins and improved operational efficiency.
- Applied statistical techniques and created **15+ visualizations**, leading to actionable insights on regional sales trends and **6%** improvement in sales forecasting accuracy.

Projects

Iterative Algorithms for Linear Inverse Problem in Image Processing Application   (Dec 2024 – present)
[On going - Under supervision of Dr. Sujit Kumar Sahoo]
- Developing and implementing iterative algorithms to address linear inverse problems in image processing, with a focus on image deblurring, denoising, and super-resolution. The algorithms are projected to improve image restoration accuracy by up to **15-18%** compared to traditional methods.
- Designed a robust framework to solve linear inverse problems, achieving a **23% reduction in computation time** while improving image quality metrics such as Peak Signal-to-Noise Ratio (PSNR) by **10-15 dB** in test cases.
- Conducting experiments on real-world image datasets of **7000+ images**, validating the scalability and efficacy of the algorithms, with preliminary results indicating a **27% improvement** in computational efficiency for large-scale image datasets.

Comprehensive Data Analysis and Visualization of IPL Matches (2008-2020)   (Oct 2023 - Jan 2024)
- Led a comprehensive data analysis project on IPL data from 2008-2020, processing match and ball-by-ball data to extract key performance metrics and insights.
- Utilized Python libraries like Plotly and Matplotlib to create detailed visualizations, enabling stakeholders to easily interpret complex cricket statistics.
- Analyzed IPL data (2008-2020) to highlight consistent top batsmen **(e.g., Virat Kohli, Rohit Sharma)** and bowlers like **Lasith Malinga** and **Dwayne bravo** for steady wicket-taking performances.
- Created visual dashboards to compare player stats over seasons, showcasing trends and providing data-driven insights into consistent performers for team strategy enhancement.

Skills

Programming Skills:	C++, Python, SQL, HTML, MATLAB
Electrical Software Skills:	AutoCAD, Solid Works, MagNet, LT-Spice, Arduino.
Frameworks:	Numpy, Matplotlib, Pandas, Seaborn, Scikit-Learn, Plotly, DeepFace, OpenCV, TensorFlow.
Software skills:	MS Powerpoint, MS Word, MS Excel/Google Sheets, Linux, Git.
Relevant Coursework:	Introduction to Python, Linear Algebra, Probability and Random Processes.
Soft skills:	Communication, Critical thinking, Problem Solving, Time management, Adaptability.
Certifications:	Supervised Learning with Linear Regression (Certificate), Advanced Learning Algorithms (Certificate)
	Introduction to Statistics (Certificate)

Positions of Responsibility

Cultrang 2023	Core member of media team, Cultrang 2023	(Jan 2023 – Mar 2023)
Originals	Core member of Film & Photography Club of IIT Goa	(Dec 2022 – August 2023)
Mess Council	Member of IIT Goa's Mess Council	(Dec 2023 – August 2023)

Achievements

- Among the top 2% in IIT-JEE Advanced 2021 of 250k candidates   (2021)
- Top 10% July Student Qualifier 2023 in *AWS DeepRacer Student*   (2019)

Extracurriculars & Hobbies

- Playing Volleyball, Badminton and Cricket (won the **Intraschool Championship**, Bhashayam School)
- Hosted several events in college (Cultural Fests, Independence Day, Republic Day etc) and organized several talks