Arpan Basu Sachdeva

Summary

As a passionate and driven individual, I am currently a 3rd year undergraduate pursuing a B.Tech in Artificial Intelligence and Data Science degree at BPIT College while actively engaged with IEEE. My primary focus lies in Machine Learning, Data Science, Natural Language Processing, and Image Processing. Fueled by an insatiable curiosity, I am particularly interested in the domain of AI and its transformative potential. With a comprehensive education, hands-on experience, analytical problem-solving skills, and a research-driven mindset, I am well equipped to tackle complex challenges and contribute to cutting-edge technologies in these rapidly evolving fields.

Experience

Vice Chairperson

New Delhi
Aug. 2024 to Present

- Nominated for the Outstanding Student Volunteer Award by IEEE Delhi Section.
- Delivered a 1.5-hour session on Intro to Deep Learning, aimed at teaching students the fundamentals of Artificial Intelligence and guiding them on how to develop AI-based projects.
- Led a 2-day Arduino Bootcamp, guiding participants through practical hardware-based project development.
- Led a week-long orientation program for IEEE BPIT, engaging new students and highlighting the benefits of IEEE membership, including access to global resources, technical workshops, networking opportunities, and career development platforms.
- Mentoring students in the domain of Artificial Intelligence and Robotics for their projects.
- Organized a series of technical and non-technical events to keep the students engaged and learn latest cutting-edge technology like Exploring the advent of Reasoning LLMs, Introduction to Robotics, OpenAI's Deep Research, Intro to Drone and many more.
- Helped in keeping record and organizing the Robotics inventory of IEEE BPIT.

Project Coordinator - Robotics

New Delhi
Sep. 2023 to Aug. 2024

- Conducted an 8-week SIG on Robotics and Arduino under IEEE BPIT, teaching fundamentals of microcontrollers and hands-on prototyping, ending with 2 group projects by the students taught.
- Delivered a 1.5hr session on Intro to Robotics and Micro-controllers to teach the students basics and real world applications of Robotics.
- Made 2 Robo-Race bots for IEEE BPIT events.
- Helped organize the RoboRace and RoboSoccer events at Malhaar, Annual fest of IEEE BPIT.
- Helped in keeping record and organizing the Robotics inventory of IEEE BPIT
- Helped in building multiple group projects in IEEE BPIT SB.
- Participated and helped organize many events throughout the tenure like Data Dive: The Ultimate Datathon, Sig on Machine Learning, Sig on Web Development, Inauguration ceremony of IEEE WIE AG BPIT and many more.

Student Volunteer

New Delhi
Jan. 2023 to Sep. 2023

- Participated in Robo Race event (Robo-Renen) with a self made bot.
- Participated and helped organize many events throughout the tenure like Intro to Open-Source and ML, SIG on Machine Learning and Python

Projects

Bridging The Gap – A Multimodal Communication System Using Deep Learning

- Engineered a deep learning–based system to bridge communication gaps for differently-abled individuals through real-time multimodal interaction, incorporating CNN and ANN models to support gesture-to-text, text-to-gesture, text-to-speech, and multilingual translation. The system achieved 99.9% validation accuracy, ensuring highly reliable performance in real-world scenarios.
- Technologies Used: Python, TensorFlow, Keras, OpenCV, CNN, ANN, VGG-16, GTTS, PIL

Google Search Analysis and Prediction

- Built an AI-driven platform that analyzes Google search history to visualize query trends and predict future search behaviors using LSTM-based models. The system delivers real-time trend analysis and personalized predictions within 2 minutes per user query, maintaining over 90% accuracy across dynamic datasets.
- Technologies Used: Python, LSTM, Neural Networks, Deep Learning, Machine Learning, Torch, PyTrends

Publications

Bridging The Gap – A Multimodal Communication System Using Deep Learning
Authors: Tithi Jain, Arpan Basu Sachdeva, Versha Sharma, Shailendra Gaur
Award: Best Paper Award at ICGCPA 2024
Conference: Proceedings of the International Conference on Generative AI, Cryptography, and Predictive Analytics (ICGCPA)
Series: Studies in Smart Technologies, Springer Nature Singapore Pte Ltd.
DOI: https://doi.org/10.1007/978-981-97-9132-3_15

Awards

- **Outstanding Student Volunteer Award** – IEEE Delhi Section *2025*
  Recognized for exceptional contribution in organizing events, leading student outreach initiatives, and demonstrating leadership within the IEEE student branch for the tenure 2024-25.
- **Best Paper Award** – ICGCPA 2024 *2024*
  Awarded for the research paper *"Bridging The Gap – A Multimodal Communication System Using Deep Learning"*, presented at the International Conference on Generative AI, Cryptography, and Predictive Analytics, published by Springer Nature.