PRANTA KUMAR SARKAR

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EDUCATION

B. Sc. in Computer Science & Engineering, CGPA: **3.23/4.00** **December 2020** (official completed in march 2022 due to covid-19)
Gopalganj Science and Technology University(GSTU),Dhaka,Bangladesh

Higher Secondary Certificate Examination, GPA:**5.00/5.00** **April 2016**
Rajshahi Government City College, Rajshahi, Bangladesh.

Secondary School Certificate Examination, GPA: **5.00/5.00** **March 2014**
Mirzapur Digha High School, Rajshahi, Bangladesh.

RESEARCH INTEREST

- Machine Learning
- Deep Learning
- Computer Vision
- Virtual Reality

PROFESSIONAL EXPERIENCES

- ✓ **Central University of Science & Technology,Dhaka** **Oct 2023- Present**
  Lecturer
  - Delivering lectures and tutorials to undergraduate students in Computer Science and Engineering.
  - Designing coursework, assignments, and exams aligned with academic standards
  - Mentoring students for academic progress and guiding final-year thesis/project
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RESEARCH EXPERIENCE

1. **Sarkar, P. K.**, Sarkar, P. K., & Atique, M. M. A. B. (2022, December). Prediction of Power Consumption in Smart Grid: A Reliable Path to a Smart City Based on Various Machine Learning Models. In 2022 International Conference on Recent Progresses in Science, Engineering and Technology (ICRPSET) (pp. 1-6). IEEE.
   DOI: 10.1109/ICRPSET57982.2022.10188543.
   - This study explores the role of smart grids in ensuring efficient energy distribution for smart cities by leveraging advanced computational techniques. Various machine learning models were analyzed for predicting grid stability, with results indicating that deep learning approaches offer higher accuracy than traditional methods. Accurate power consumption forecasting enhances the overall efficiency and reliability of the energy system.
2. **Sarkar, P. K.**, & Abdullah, A. B. M. (2022). Diagnosing Suspects by Analyzing Human Behavior to Prevent Crime by Using Deep and Machine Learning.
   DOI: 10.21203/rs.3.rs-2015075/v1
   - This study aims to improve security by utilizing automated human activity recognition in video surveillance. By employing advanced computational techniques, the system effectively analyzes behavior to detect potential suspicious activities with high precision. The research focuses on developing a reliable and efficient approach for real-time threat identification, enhancing overall surveillance capabilities.
3. Pranta Kumar Sarkar, Moskura Hoque, Mostofa Kamal Nasir . Vision-based Human Activity Recognition Uses a Deep Learning Approach. International Journal of Computer Applications. 186, 74 (Mar 2025), 70-74..
   DOI: 10.5120/ijca2025924621
   - This study explores vision-based human activity recognition, a crucial field with applications in security, healthcare, and human-computer interaction. By analyzing diverse human actions in real-world environments, the research identifies an effective computational model for accurate activity recognition. The proposed system demonstrates high accuracy and reliability, ensuring precise detection of human activities.

4. Shakil Ahmed Khan, Nabid Hasan Sany, Mst. Bipasha Mijan Prianka, Md. Milon Sheikh, **Pranta Kumar Sarkar**. "Dr.BottleGourd24-Bottle Gourd Leaf Disease Classification with CNN". IEEE CS BDC Symposium 2024, Vol. 3, Nov 22-23, 2024.
    - This research focuses on automated classification of bottle gourd leaf diseases using advanced computational models. By distinguishing between healthy and diseased leaves with high accuracy, the study highlights the effectiveness of automated approaches in plant disease diagnosis.Under the guidance of my supervisor, we are working on the project and have already presented our abstract at the IEEE conference.

ACADEMIC PROJECT AND INTERNSHIP:

- ✓ **Industrial Training for Professional Web Design & Development, Future IT park, KhulnaMay 2018- June 2018**
  -Experiences related web programming and software development.
  -Developed an understanding of real-time environments in software companies
- ✓ **Skill Development for Mobile Game and Application, ICT Division,Bangladesh May 2018- June 2018**
  -Learned the fundamentals of Android app design, including layout structuring, user interaction, and responsive UI development using Android Studio
  -Gained a clear understanding of how the Android operating system works, including its architecture, components, and app lifecycle management
- ✓ **Archery Game with C (First-Year Project): December 2017**
    - You created a console-based archery game where the player inputs the angle and power to hit a randomly positioned target.Utilized basic C libraries like conio.h for handling graphics and input.
- ✓ **Student and Teacher Information System with Android: December 2018**
    - Developed a mobile app to manage student and teacher data names, designations, grades, and contact details.
    - You used Android Studio and Java for the front-end and Firebase for the backend to store the data.
- ✓ **Varsity Admission Seat Planning Portal with Android: December 2019**
    - Developed an Android-based portal for managing university admission seat allocation.
    - This app helps track available seats, manage student applications, and plan seat assignments based on specific criteria such as department, course, and admission category.
- ✓ **E-commerce Website with PHP Laravel Framework: December 2020**
    - Created an e-commerce platform where users can browse products, add them to their cart, and make purchases.
    - The backend was developed using Laravel, with features like product catalog, user authentication, order management, and an admin panel.
- ✓ **Weather Prediction with Hardware: December 2020**
    - You worked on weather prediction using Arduino and sensors like temperature, humidity, and UV light.
    - Collected weather data from sensors and integrated cloud-based storage for analyzing and storing this data.
    - Additionally, you displayed live weather forecasts on a website, which makes the project even more useful.

SKILLS & COMPETENCIES

- ✓ Programming Languages: C, C++, Java, Python
- ✓ Software Development: Android, PHP, Laravel, HTML, CSS, JavaScript, WordPress.
- ✓ Machine Learning & AI: TensorFlow, CNN, OpenCV,Prolog.
- ✓ Database Management: Firebase, SQL, MySQL.
- ✓ Hardware & IoT: Arduino,Sensor data collection and cloud integration

ACTIVITIES

- ✓ Team Lead – ML Research – Led a project on AI-based plant disease diagnosis CNN & TensorFlow.
- ✓ Seminar Lead – Conducted and led technical seminars on topics SQA.
- ✓ Paper Presenter – Presented a research paper at ICRPSET conference, Rajshahi University, 2022.
- ✓ Project Supervisor – Mentored students in software and hardware projects.

ACHIEVEMENT

- ✓ Awarded Paper Presentation Certificate.
- ✓ Secured 3rd place in Android App Development Training.
- ✓ Won multiple sports awards (1st, 2nd, 3rd positions).
- ✓ Named Employee of the Month several times.