RAJDEEP SHAW

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Gender: Male   **Date of birth:** 18/11/2000   **Nationality:** Indian

ABOUT ME

I am a graduate in Electronics and Communication Engineering with expertise in IoT, Embedded Systems, and Industrial Automation. I am always motivated to integrate AI into my work and develop intelligent systems for security and emergency services. Additionally, through projects and internships, I have gained significant hands-on experience. In the future, I aspire to contribute to innovations and advancements in autonomous and sustainable systems.

EDUCATION AND TRAINING

[2018 – 2022] ### Bachelor of Technology (B.Tech)

Jalpaiguri Government Engineering College   https://jgec.ac.in/

City: Jalpaiguri, West Bengal | **Country:** India | **Field(s) of study:** Electronics and Communication Engineering | **Final grade:** 8.8

[2018] ### Certificate of Higher Secondary Education

West Bengal Council of Higher Secondary Education

City: Kolkata, West Bengal | **Country:** India | | **Final grade:** 79.2 %

[2016] ### Certificate of Secondary Education

West Bengal Board of Secondary Education

City: Kolkata | **Country:** India | | **Final grade:** 85 %

WORK EXPERIENCE

[06/2023 – Current] ### Jr. Software Engineer

Cognizant Technology Solutions

City: Bangalore | **Country:** India

- Full stack web development using HTML5, CSS3, JavaScript, Angular and Spring Boot, Java, microservices, AWS cloud, and databases on MySQL and Oracle PL/SQL.
- Application of IoT in the collection and interpretation of real-time data for the development of smart and cloud-based solutions and for sensor-driven industrial monitoring systems.
- Collaborated with teams to gather requirements, define project scope, delivered reports and presentations to communicate findings and to align with business goals, ensuring teamwork and project success.
- Gained insights into the developer's role in the Travel and Hospitality industry in airlines domain.

[04/2024 – 08/2024] ### Intern

National Institute of Technology Durgapur

City: Durgapur | **Country:** India

- Studied the research, and possibilities of FPGA-based electrical impedance spectroscopy systems for biomedical applications
- Researched innovations in FPGA technology and its high-precision, real-time processing tasks to identify potential areas of challenges, improvements and applications of FPGA-based systems and other complex computation systems, in the future.

[01/2021 – 02/2021] ### Intern

SmartKnower

City: Remote | **Country:** India

- Developed an IoT Security Door Lock System using ESP8266 NodeMCU, IR sensors, and cloud integration via Thingspeak and MIT App Inventor for real-time notifications.
- Built a Water Level Monitoring System using ultrasonic sensors, Blynk app, and Arduino IDE, allowing remote monitoring and control of water tanks to conserve resources.

[06/2019 – 07/2019] **Apprentice**

Oil and Natural Gas Corporation (ONGC)

City: Kolkata | **Country:** India

- Acquired experience in networking, communication, and instrumentation studies with a focus on industrial automation systems.
- Worked on SCADA (Supervisory Control and Data Acquisition) systems for monitoring and controlling industrial processes.
- Gained hands-on experience with VSAT and SATCOM technologies for remote communication.
- Analyzed and implemented control valves and sensors, enhancing safety and automation in oil and gas operations.

[06/2019] **Trainee**

Kyrion Technologies Pvt. Ltd.

City: Kolkata | **Country:** India

- Developed and implemented various supervised and unsupervised AI algorithms, including Linear Regression, KNN Classification, and Logistic Regression, for real-world use cases.
- Built projects utilizing techniques such as Gradient Descent and Polynomial Regression.
- Completed a final project using the K-Nearest Neighbors (KNN) Algorithm for Breast Cancer Classification.
- Applied Reinforcement Learning algorithms for predictive analysis.

DIGITAL SKILLS

My Digital Skills

JAVA (Spring Framework, SpringBoot, REST, Hibernate, JPA, JDBC, JAX-RS, Maven, Gradle) | programming: Python, MATLAB and SQL | IDE: Eclipse, Visual Studio, Visual Studio Code, PyCharm, Dev C++ | Jupyter (Jupyter-lab/Jupyter-notebook) | Python (Pandas, NumPy, Scikit-learn, Seaborn, Matplotlib, SciPy, OpenAI Gym, PySpark) | IoT Applications (Arduino, Raspberry Pie) | Embedded Systems: Embedded C | HDL(SystemVerilog,Vhdl, Verilog) | FPGA based Digital Design/ Development and Testing | Platform : AWS Cloud | Soft Skills

PROJECTS

[2022] **IoT based Advanced Driver Assistance System for Emergency Services**

The IoT based emergency service system incorporates a Raspberry Pi, camera and other sensors for real-time traffic monitoring and management, drowsiness detection, alcohol tracking, and accident reporting. Additionally, it features GPS, tachometer, alcohol and vibration sensors, analyzes data on ThingSpeak, and sends emergency alerts to authorities, enhancing vehicle safety and performance.

Link: https://github.com/shawrajdeep00/IoT_ADAS_system

[2021] **Movie Recommender System**

The system develops a recommendation model using vectorization and cosine similarity for genre and tag-based movie suggestions on TMDB 5000 dataset, exploring Content-Based method. Future work includes collaborative filtering and Hybrid method integration and deployment on platforms like Netflix and Amazon Prime.

Link: https://github.com/shawrajdeep00/movie-recommender-system/tree/main

[2021] **UART interfacing with FPGA**

The project implements UART communication on an FPGA, demonstrating data exchange with external devices. Using VHDL, it covers baud rate generation, data transmission, and reception, highlighting FPGA's use in real-time communication, ideal for embedded systems learning.

Link: https://github.com/shawrajdeep00/UART-interfacing-with-FPGA

[2019] **KNN Algorithm for Breast Cancer Classification**

The project uses KNN to classify breast cancer tumors as benign or malignant , testing accuracy for different k values and visualizing results with Matplotlib.

Link: https://github.com/shawrajdeep00/K-nearest-neighbour

LANGUAGE SKILLS

Mother tongue(s): Bengali , Hindi

Other language(s):

English

LISTENING C2 **READING** C1 **WRITING** C1

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

German

LISTENING A2 **READING** A2 **WRITING** A2

SPOKEN PRODUCTION A2 **SPOKEN INTERACTION** A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

HONOURS AND AWARDS

[2019] **Winner of College annual technical competition (CFI) Awarding institution:** Jalpaiguri Government Engineering College

Won the annual college technical competition organized by the technical club of the college.

[2019] **Newspaper publication for project achievement Awarding institution:** Uttarbanga Sambad

Developed "Network less Mobile Communications" using Arduino and radio for connectivity in network-free areas, featured in the state newspaper, as it solved local issues.

Link: https://drive.google.com/file/d/1Kx_EJntnYak7i5UtkkaS2yYHNXYRQRsH/view

HOBBIES AND INTERESTS

Teaching

Propagate knowledge of recent technologies, science, sustainability, painting and presentation skills to underprivileged children

Problem solving and posting on GitHub

Solving coding challenges, puzzles and logical reasoning problem statements.

Article writing

Posting articles on LinkedIn regarding recent trends in the field of AI and hardware engineering.

Language learning

Certified proficiency in German language (A1)