

# SANATAN SHRIVASTAVA

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🔗 Personal Website

## EDUCATION

**Indian Institute of Information Technology, Kota**

**Aug. 2018 - Jun. 2022**

*Bachelor of Technology, Computer Science and Engineering (Cumulative GPA: 8.48/10)*

*Jaipur, India*

## RELEVANT COURSEWORK

Data structure, Software Engineering, Database Management Systems, Operating Systems, Design and Analysis of Algorithms, Computer Networks.

## RESEARCH EXPERIENCE

**Indian Institute of Information Technology, Kota**

**Jan. 2021 - Present**

**Project Title:** *Early and Automated Diagnosis of Dysgraphia using Deep Neural Network.*

*Sponsored by Department of Science and Technology (DST), New Delhi, Government of India.*

Undergraduate Research Assistant; **Mentor:** Dr. Basant Agrawal (Asst. Professor)

- Proposed a model to extract features from sample images by using Optical Character Recognition (OCR) and openCV.
- Optimized the images by OCR using keras to reduce noise by converting images into grayscale.
- Leveraged the Adaptive Boosting (AdaBoost) algorithm for scoring the extracted attributes .
- Further deployed the project; developed a web portal by integrating Airtable API(s) solutions for collecting dataset; thereby reducing the cost of the total project by 30% compared to costs incurred by cloud storage.

**Dept. of Science and Industrial Research, Ministry of Science and Technology**

**Aug. 2020 - Oct. 2021**

**Project Title:** *Automated wheel chair for physically challenged using AIoT.*

*Sponsored by Department of Science and Industrial Research (DSIR), Government of India.*

Undergraduate Research Assistant; **Mentor:** Dr. Priyanka Mishra (Asst. Professor)

- Researched and proposed the modules for maintaining social distancing, recording body temperature, and oximeters to improve the utility of existing wheelchairs for quadriplegics.
- Evaluated the scope of using Artificial Intelligence of Things (AIoT) in the proposed modules for minimizing the requirement of manual support; Researched the viability of the EERG headset for the Robotic Arm movement using Brain-Computer Interface.

## PUBLICATIONS

Mishra P., Shrivastava S. **Cloud AIoT based Smart Wheelchair using Module for Social Distancing, Temperature Monitoring, and Oximeter Module.** International Journal of Information Technology (IJIT) Vol. 7 No. 5 [DOAJ]

Agrawal B., Jain S., Shrivastava S. et al. (2021) **A Literature Survey on Detection of Dysgraphia through Machine Learning and Deep Neural Network.** Submitted, under review as European Alliance for Innovation transactions in the Journal of Pervasive Health and Technology [SCOPUS]

Mishra P., Shrivastava S. (2021) **Automated Wheelchair for Physically Challenged with AIoT modules** Submitted, under review in EAIH 2022 (Edge-AI in Healthcare: Trends and future perspective) Vol. ahead-of-print No. ahead-of-print.

## INTERNSHIP EXPERIENCE

**On The Go Car Wash (OTG), Jaipur**

**Nov. 2020 - Jan. 2021**

*Web Developer/Full Stack Intern; Supervisor: Ms. Priyanka Singhal*

- Developed a monitoring dashboard to assign/unassign a worker to an order, cancel customer-registrations, and billing feature.
- I improved website's performance by 40% through caching, asset optimization, and HTTP/2 resulting in 70% revenue growth.

**Malaviya National Institute of Technology, Jaipur**

**Nov. 2018 - Feb. 2019**

*Technical Team; Supervisor: Mr. Ayush Rawal*

- Deployed an interactive website of annual fest for event registration. Enhanced user experience; resulting in 70% increase in the revenue; Reduced costs by 300 % compared to the previous year's fest.
- Improved web performance and reduced the Page Load Time by 25% by leveraging browser-caching, asset optimization.

## PROJECTS

**Python chat application using MQTT Broker | Minor Project 3 | Python, MQTT**

**April. 2021 - May 2021**

- Used tkinter to develop a Graphical User Interface and paho library to set up the MQTT client for chat feature.
- Integrated Hive MQ cloud for storing the text messages while sending/receiving.

**Rhyme | Data Structures Project | Java Collections Framework**

**Apr. 2020 - May. 2020**

- Developed a Java program to record expenditures, calculate savings and handle user transactions.
- Implemented Heap data structure, reducing complexity from  $O(k*n)$  to  $O(k*(\log(n)))$ .

**Enterprise Resource Portal | Academic Team Project | HTML5, CSS3, Javascript, SQL**

**Nov. 2019 - Feb 2020**

- Implemented features including automatic report generation; tuition-fees payment; receipt generation etc.

## TECHNICAL SKILLS

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**Languages:** Core Java, C, C++, Javascript, Python, HTML5

**Developer Tools:** VS Code, Google Cloud Platform, Github AWS, Canva

## CERTIFICATIONS

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**Algorithmic Toolbox** — University of California, San Diego

**Software Engineering Virtual Experience** — JP Morgan Chase and Forage (Previously Insidesherpa)

**Texted Based Bank in Java** — Coursera Project Network

## AWARDS AND RECOGNITION

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- Accepted to the **Udacity Bertelsmann Technology Scholarship program 2020** for **Cloud Computing** track.
- Secured **2nd** rank in 'Hack24', a 24 hour long team hackathon at **Sphinx, MNIT Jaipur**, 2019.
- Team reached finals out of 25+ teams for **Smart India Hackathon 2020** (campus edition).
- Secured **2nd** rank in the inter-college badminton tournament in **IIIT Kota sports tournament** 2019.

## EXTRACURRICULAR / LEADERSHIP

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### Training and Placement Committee, IIIT Kota

**April. 2021 - Present**

*Student Placement Coordinator*

*Indian Institute of Information Technology, Kota*

- Managed placement-related engagements between the college and companies to ensure internship and placement opportunities for all the students and hosted placement preparation workshops for the students.

### Google Developer Students Club

**July 2020 - Aug. 2021**

*GDSC Student Lead /Teaching Assistant*

*Indian Institute of Information Technology, Kota*

- Taught Java, Cloud Computing etc, to students; succesfully hosted the '30 Days of Google Cloud' by Google.

### IIIT Kernel — Technical Forum, IIIT Kota

**Aug. 2018 - Present**

*Student Lead / Advisor*

*Indian Institute of Information Technology, Kota*

- Arranged sessions with leaders and mentors from Industry and Academia for students across Jaipur.

### Jal Shakti team by the Ministry of Jal Shakti, Govt. Of India

**Oct. 2019 - Present**

*Team member / Advisor*

*Indian Institute of Information Technology, Kota*

- Conducted knowledge drives at government high schools in Jaipur to raise awareness about water conservation; helped the team plan various competitions to teach students about the need for rainwater harvesting.

### Odyssey - Literary Society

**Jan. 2019 - Present**

*General Secretary*

*Indian Institute of Information Technology, Kota*

- Hosted workshops to teach communication and debating skills to Juniors at my college. Designed and published the official college magazine Quills 'n' Stills.

### Sports Council - Badminton Team

**Nov. 2018 - Feb. 2019**

*Institute Badminton team captain*

*Indian Institute of Information Technology, Kota*

- Led the team to tours at BOSM'19 (BITS Open Sports Meet) at BITS Pilani, and Inter-IIIT meet at the Indian Institute of Information Technology Allahabad (U.P).