

SANATAN SHRIVASTAVA

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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 in the Australian Journal of Learning Difficulties [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.
- 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

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

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

CERTIFICATIONS

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

- 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

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).