

Sachin Kumar Bairwa

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EDUCATION

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- **Indian Institute of Information Technology, Kancheepuram** Tamilnadu, India
Bachelor of Technology - Information Technology; GPA: *Dec 2020 - Present*
Courses: Data Science, Digital Image Processing, Pattern Recognition, Machine Learning, Deep Learning, Artificial Intelligence, interaction design in UI/UX, Web Development, Databases, Operating Systems, Device Drivers, Compiler Design, Computer Networks, Internet of Things, Object Oriented Programming, Data Structures, Analysis Of Algorithms
 - **Jawahar Navodaya Vidyalaya, Dausa** Rajasthan, India
12th class percentage: 92% *July 2019 - March 2020*
10th class percentage: 92% *July 2017 - March 2018*

SKILLS SUMMARY

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- **Languages:** Python, C/C++, JavaScript, Pyscript, SQL, PHP, Bash, JAVA, Verilog, NASM, Latex, AWK, Kotlin
 - **Frameworks:** Scikit, TensorFlow, Matplotlib, Pandas, Seaborn, OpenCV, tkinter, Pygame, Turtle, Django, React
 - **Tools:** MySQL, Autodesk, Figma, Unity, Logisim, Packet Tracer, WAMP, Android Studio, YOLOv5
 - **Platforms:** Linux, Windows, Arduino, Raspberry
 - **Soft Skills:** Leadership, Event Management, Writing, Public Speaking, Time Management

PROJECTS

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- **Loan Approval Predictor (Machine Learning, Web Development):**
A ML model predicts loan approvals using a loan dataset, integrated into a website for user input and predictions. The website employs pre-trained model, data preprocessing, and popular libraries like numpy, pandas, matplotlib, seaborn, and sklearn.
 - **Foody- Online Food Ordering Website(Web Development):**
I created a food/restaurant website with HTML, CSS, JavaScript, Font Awesome, and custom CSS for design and functionality. It features a navigation bar, search function, shopping cart, and login button. The website is responsive, with unique designs and functionalities for menu, banner, and popular sections.
 - **Redundant Building Network Design with Advanced Features in Packet Tracer (Networking):**
I designed a building network using Packet Tracer, with redundancy through two routers and ISPs. It includes VLANs, L3 switch routing, DHCP server, OSPF routing, SSH security, port security, and NAT. It uses private/public IPs, hostnames, and passwords for each department..
 - **Text-editor (GUI Development):**
Designed a GUI based text editor built using the tkinter library in python. It has several functionalities such as text formatting, theme options, file management, and a toolbar and status bar. The editor also uses icons for its buttons and menu options. The editor also has a scrollbar to navigate through large texts.
 - **Stock Forecasting(Machine Learning):**
Implemented a ML model using numpy, pandas, matplotlib, seaborn, and sklearn to predict stock prices using a linear regression model. It performs data preprocessing and visualizes the data. The code then trains a linear regression model and calculates the accuracy of the model using the mean squared error metric.
 - **Air canvas(Image processing):**
I developed a Python script using OpenCV, NumPy, and Mediapipe for hand-drawn virtual canvas. It detects hand landmarks and tracks hand movement to draw lines with color options. Users can switch colors and clear the canvas.
 - **SW Fuzzer [ongoing](Neural Network, Deep Learning, Android App Development,):**
Implementing fuzzing testing techniques on complex Android applications to identify and mitigate potential vulnerabilities before release, and conducted ongoing post-release testing to ensure ongoing security and reliability for users by using java, Kotlin .
 - **Real-time Object Detection for Rock-Paper-Scissors Game (Deep Learning, YOLOv5):**
The code performs real-time object detection on a video using OpenCV and a pre-trained YOLOv5 model. It detects paper, rock, and scissors objects based on predefined class labels, applies non-maximum suppression, and displays the processed video with object labels and bounding boxes. OpenCV and NumPy library versions are also printed at the end.
 - **Self Learning Chatbot (Natural Processing Language):**
The above code is a Python script that implements a chatbot using natural language processing techniques. It uses the NLTK library for text processing and the newspaper3k library for extracting articles from Wikipedia. The chatbot can engage in conversations, answer questions related to a specific topic (input by the user), and respond to greetings and expressions of gratitude.

HONORS AND AWARDS

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- Demonstrated exceptional coding abilities by consistently achieving a 5-star(188 Hackos) rating on HackerRank coding challenges
 - Successfully developed and presented the 'Smart Bus' project, which was selected for the EHIPASSIKO program.

EXTRACURRICULAR ACTIVITIES

- Holding NCC A, B, C, TSC, ATC and IGC Certificates, showcasing proficiency in various aspects of military training, leadership and communication skills.
- Awarded the prestigious Rashtrapati Puraskar in Scouting for outstanding achievement and dedication to the scouting movement.
- Completed the National School of Adventure run and managed by the Mt. Everest Foundation, earning a certificate in outdoor leadership and adventure skills.
- Achieved first place in yoga competitions on two separate occasions.
- Recognized at the national level for my magnetic working train model, as a winner at the BITS Pilani, Pilani Campus.

VOLUNTEER EXPERIENCE

- **Community Lead at VIDHAI NGO** Chennai, India
Conducted online and offline technical & soft-skills training impacting over 3000 students. *Jan 2022 - Present*
- **Web Developer at AUV Club** Chennai, India
I was responsible for designing, developing and maintaining the AUV club's website.