

Daksh Jitarwal

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EDUCATION

- Birla Institute of Technology and Science Pilani** Pilani, India
 - Major: Electrical and Electronics Engineering; GPA: 6.33* Aug 2019 - Jun 2023
 - Courses: Internet of Things, Computer Programming, Pattern Recognition, Probability and Statistics, Combinatorial Mathematics, Advanced Statistical Methods*

SKILLS SUMMARY

- Languages:** Python, C++, JavaScript, HTML, CSS
- Frameworks:** React, Pandas, NumPy, TensorFlow, Flask
- Tools:** MATLAB, GIT, Illustrator, Firebase, Jupyter Notebooks
- Platforms:** Linux, Web, Windows, Arduino, Processing, Raspberry Pi, NodeMCU

EXPERIENCE

- Data Analyst Intern** Remote
 - JSW Energy* May 2021 - Jul 2021
 - Worked on improving the combustion efficiency of coal in the Power Plant Division.
 - Carried out research on coal properties and their effect on combustion and emission efficiency.
 - Implemented a regression algorithm to predict the Sulphur and Nitrogen content in the emission fumes.
 - Visualized the correlation between coal properties and efficiencies of different units using Matplotlib.
- Thesis** BITS, Pilani
 - Title: Design and development of privacy-preserving techniques for location-based services.* Jan 2023 - May 2023
 - Carried out an in-depth literature review of state-of-the-art research in privacy protection mechanisms, including obfuscation, differential privacy, k-Anonymity, and various TTP-based schemes.
 - Designed and implemented a Location Privacy Protection mechanism using Python and synthetic databases.
 - The user can initiate a POI search within a radius without revealing precise location using Trilateration.
 - The shape of the trajectory is preserved even after obfuscating it so that the trajectory data is usable by third parties.
 - Devised a utility metric to quantitatively measure the usability and performance of the designed algorithm.

PROJECTS

- Family Tree Fetcher - Web Development**
 - Javascript, Postman, Aws, Google Vision*
 - Developed an API that generates a user's family tree by scraping data from electoral roll websites.
 - Utilized Puppeteer to scrape electoral rolls from different state websites.
 - Leveraged Chrome Protocols to halt network requests and download PDFs.
 - Employed Google Vision and Translated APIs to bypass captchas and extract text from images and translate it.
 - Won the hackathon among around 1500 other participants by implementing this solution to the problem statement.
- AquaCheck**
 - Internet of Things - ESP8266 NodeMCU, Sensors, Flask, Firebase*
 - Interfaced hardware sensors with ESP8266 module to measure different parameters of water in a water body.
 - Used LoRa modules to enable communication between three different nodes(ESP8266) using the ESP-Now.
 - Developed a website using Flask to monitor the pollution level using the data periodically relayed by the microprocessors to Firebase.
 - Utilized the Mac Protocol for communication between three ESP modules.

COMPETITIONS

- HackYourWay - All India Hackathon by BharatX** Pilani
 - Oasis Fest, Nov 2022*
 - Winner of the 36-hour hackathon organized by BharatX, competing against more than 1500 participants

EXTRA-CURRICULAR

- Department of Art, Design and Publicity** Pilani, India
 - Core Member* Aug 2019 - May 2023
 - Worked to manage the BITS Pilani's Cultural and Technical Fests' decoration having a footfall of over 6000 people.
 - Helped generate a combined outreach of over 1 lac; successfully partnered with 3 YouTubers for media presence.
- Hockey Team, BITS Pilani** Pilani, India
 - Member*

CERTIFICATIONS

- **Javascript Data Structures and Algorithms:** FreeCodeCamp
- **Front-End Development Libraries Certification:** FreeCodeCamp
- **Using Python to Access Web Data:** University of Michigan
- **Python Data Structures:** University of Michigan