

Shivang Dubey

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EDUCATION

- Guru Gobind Singh Indraprastha University** BPIT, Delhi
B.Tech. in Electronics and Communication Engineering; CGPA: 9.48/10.00 Aug 2019 - Jul 2023
Courses: Analog Electronics, Data Structures and Algorithms, Digital Signal Processing, Digital Communication, Database Management System
- Indian Statistical Institute** Remote
Winter School on Deep Learning Jan 2023 - Mar 2023

SKILLS SUMMARY

- Languages:** Python, SQL, MySQL, C/C++
- Tools & Frameworks:** Machine Learning Libraries (PyTorch, Tensorflow, KERAS, scikit-learn) Data Engineering Tools (**Apache Airflow**, **pgAdmin**, Snowflake, Power BI, MySQL Workbench, Amazon S3, Selenium, BeautifulSoup4 (bs4)), Version Control (GIT, GitHub), Data Analysis Tools (Pandas, NumPy, Excel), OpenCV, Amazon Redshift
- Key Skills:** Machine Learning (Regression, Classification, Supervised Learning) Deep Learning (CNNs, RNNs, Reinforcement Learning (DQL)), Data Engineering/Visualization/Analysis (Tableau, Seaborn, Excel, Google Dashboard, Colab), Technical Content, Computer Vision (Medical Image Analysis, Image Processing)

EXPERIENCE

- ZS Associates** Gurugram, India
Business Technology Solutions Associate Sep 2023 - Present
 - Played a key role in an Operations and Enhancement Project for the world's **6th** largest biomedical company, driving the optimization of data processes and systems. Designed, built, and enhanced multiple **ETL** pipelines critical to the project's success.
 - Conducted routine data manipulation and insight generation using SQL, with a focus on PostgreSQL and Workbench. Managed data ingestion and extraction via Amazon S3.
 - Automated backup processes on Amazon S3 using Python and **boto**, reducing manual effort by approximately **8 hours** per week. Streamlined operations and reporting workflows using Apache Airflow, saving an additional 4 hours weekly.
 - Developed Excel automation solutions using VBA, eliminating a **12-hour** weekly manual process for data fetching, formatting, and analysis. Created VBA-driven Excel reports linked to PostgreSQL databases, enhancing team efficiency by approximately **80%**.
 - Led backend development for a web portal as part of a high-impact **technology migration project**. Designed and implemented complex business logic and rules using **Python and Flask**, and integrated seamlessly with a frontend built on AngularJS to deliver a robust, scalable solution for the client.
- Polytechnique Montréal** Montréal, Canada
Summer Research Intern May 2022 - Jul 2022
 - Collaborated with a PhD student to develop a **Deep Q Learning** model for a network intrusion detection system. The obtained accuracy was greater than **79%**.
 - Built machine learning models for the same **Network Intrusion Detection System**, including **Support Vector Machine**, **Random Forest Algorithm**, and **Convolution Neural Network**, and compared the results to the Deep Q Learning model using **Tensorflow**.
 - Compiled the analysis and found that **Deep Q Learning performed better** than other ML models on the same dataset, with an accuracy difference of **2%**.

ACADEMIC PROJECTS

- COVID-19 Detector:** COVID-19/Infected cases were detected using a positive case and a normal case image dataset.
 - Tech:** CNN Classifier (Sequential) trained using **KERAS**, data preprocessed using **NumPy**
 - Outcome:** Optimised using **Gradient Descent**; Accuracy more than **93%**.
- Social Distancing Violation Detection System:** The model was created to detect human and distance violations between two human centroids along with human face detection.
 - Tech:** Model trained using **YOLO (v3)** algorithm and weights, along with COCO dataset for pre-existing object classes. **OpenCV** for face and human detection. Along with **SciPy's** Euclidean Distance for human centroid formation.
 - Outcome:** With a suitable detection rate, the model draws a box around the human; Accuracy more than **94%**. [Thesis](#)

AWARDS AND ACHIEVEMENTS

- ZS Impact Award:** Recognised at ZS for making a dynamic contribution to the project, involved Data Analysis and Targeting
- Mitacs Globalink Research Internship Award:** Positioned as a Research Intern at a Canadian University with funding
- Smart Indian Hackathon 2022 College Finalist:** Top-10 in college to represent the team in additional SIH rounds