

Shivang Dubey

LinkedIn: [linkedin.com/in/shivangdubey8](https://www.linkedin.com/in/shivangdubey8)

GitHub: github.com/shivangdubey

Email : shivangdubey2001@gmail.com

Mobile : +91-9717428962

Portfolio: shivangdubey.github.io

EDUCATION

- **Guru Gobind Singh Indraprastha University** BPIT, Delhi
• **B.Tech.** in Electronics and Communication; **CGPA: 9.49/10.00** Aug 2019 - Jun 2023
Courses: Analog Electronics, Data Structures and Algorithms, Digital Signal Processing, Digital Communication, Database Management System
- **Indian Statistical Institute** Kolkata, India
• **Winter School on Deep Learning** Jan 2023 - Mar 2023
Areas: Perceptrons, Deep Learning Libraries, CNN, Deep Q Learning, Optimisation Techniques, Medical Image Analysis, Self Supervised Learning

SKILLS SUMMARY

- **Languages:** Python, SQL, MySQL
- **Tools & Frameworks:** Excel, Tableau, PyTorch, Tensorflow, GIT, GitHub, KERAS, OpenCV, scikit-learn, Pandas, NumPy
- **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

- **Polytechnique Montréal** Montréal, Canada
• **Summer Research Intern** May 2022 - Jul 2022
 - **Reinforcement Learning:** 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%**
 - **Comparative Analysis:** 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**.
 - **Outcome:** 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%**.
- **Indian Institute of Technology Delhi** Remote
• **Research Intern** Jun 2021 - Aug 2021
 - **Qualitative Data Analysis:** Researched over **150+ companies/start-ups** to identify the reason of failures and successes of its products in market. Modeled case study about a product to assist in boosting its reach by **numerical and qualitative analysis**
 - **Implementation:** Forecasted increase in the sales by applying 'Segmentation, Targeting and Positioning' model and **4P** (Product, Price, Place, Promotion) framework
 - **Case Study:** I mined and examined data related to **consumer psychology** and **neuromarketing** while working on the project "Consumer adoption behaviour of Ayurvedic offerings in the market."

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](#)
- **Online Grocery Store Scraper:** Data Scraping from BigBasket.com, including important product descriptions.
 - **Tech:** Web queries and parsing are automated in the browser using **Selenium** and **BeautifulSoup4**. Python-based dataset processing using **NumPy** and **Pandas**.
 - **Outcome:** Data was scraped from all products on the online grocery store, including Price, Description, Quantity, and Brand, and saved in a reusable format for Data Analysis and operations.

AWARDS AND ACHIEVEMENTS

- **Mitacs Globalink Research Internship Award:** 8800 CAD of funding
- **Smart Indian Hackathon 2022 College Finalist:** Top-10 in college to represent the team in additional SIH rounds
- **Break the Shackles 3.0 Finalist:** Finalist in inter-college technical hackathon organised by the college and IEEE

POSITION OF RESPONSIBILITY

- **Author - Open Source Contribution:** Contributed to [SymPy's](#) GitHub repository for enhancement and deployment