

# Shivang Dubey

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Portfolio: [shivangdubey.github.io](https://shivangdubey.github.io)

## EDUCATION

- Guru Gobind Singh Indraprastha University** BPIT, Delhi  
*B.Tech. in Electronics and Communication; CGPA: 9.50/10.00* Aug 2019 - Jun 2023  
Courses: Analog Electronics, Data Structures and Algorithms, Digital Signal Processing, Digital Communication, Database Management System

## SKILLS SUMMARY

- Languages:** C++, C, Python, SQL, MySQL
- Tools & Frameworks:** GIT, GitHub, Matlab, PyTorch, Tensorflow, KERAS, OpenCV, scikit-learn, LaTeX, BeautifulSoup4 (bs4), Selenium, SciPy
- Key Skills:** Machine Learning, Deep Learning, Data Science, Data Engineering/Visualization/Analysis, Web Scraping

## EXPERIENCE

- Polytechnique Montréal** Montréal, Canada  
*Summer Research Intern - Prof. Soumaya Cherkaoui* 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
- Indian Institute of Technology Delhi** Remote  
*Research Intern - Prof. Biswajita Parida* 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
  - Case Study:** Forecasted increase in the sales by applying 'Segmentation, Targeting and Positioning' model and 4Ps framework
- Tiffinia - Start-Up** Remote  
*Python Developer Intern* Jan 2021
  - Data (Pre)Processing:** Contributed to the datasets Food/Conglomerate. Implemented the PCA technique for dimension reduction. The data learning curve was created with greater than **93%** accuracy
  - Data Visualization:** The data was visualised in accordance with the models used, using the Python libraries Matplotlib and Seaborn, for better data analysis and prediction

## ACADEMIC PROJECTS

- COVID-19 Detector:** COVID-19/Infected cases were detected using a positive case and a normal case image dataset. Gradient Descent and CNN Classifier were used to optimize the process. (Deep Learning and Model Training using KERAS and CNN Algorithm. Accuracy more than **90%**)
- Social Distancing Violation Detection System:** The model was created to detect human and distance violations between two human centroids. With a suitable detection rate, the model draws a box around the human. (Detection model trained using OpenCV, YOLOv3 Algorithm and SciPy Euclidean Distance. Accuracy more than **93%**). [Thesis](#)
- Online Grocery Store Scraper:** 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

## TRAINING

- Winter School on Deep Learning** Kolkata, India  
*Indian Statistical Institute (ISI)* Jan 2023 - March 2023
  - Accomplished:** Deep Learning concepts and applications were the focus of a three-month winter school that began with perceptrons, DL libraries, optimisation techniques, CNN, Deep Reinforcement Learning, and its applications.

## 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
- Volunteer:** Feb 2021- Sep 2021 [PyCon India 2021](#) Pythonistas' Largest Conference in India
- Mentor:** Aug 2020 - Sep 2022 [HashDefine](#) College Technical Society