

# MRINAL WALIA

Toronto, Ontario | 905-781-2945 | walia8@uwindsor.ca  
linkedin.com/in/mrinal-walia-b0981b158 | github.com/abhiwalia15 | abhiwalia15.github.io/portfolio

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## TECHNICAL SKILLS

**Programming Languages:** Python(primary), R, HTML, JavaScript, ChatGPT Prompt Engineering  
**Tools and Technologies:** GCP, Git, Bitbucket, Docker, SonarQube, Jira, PyCharm, AWS, Azure  
**Data Science:** Data Visualization, Data Analysis, Data Exploratio, Gathering & Cleaning, Performance Metrics  
**Machine Learning:** TensorFlow, PyTorch, Big Data, OpenCV, NLP, Deep Learning, Neural Networks, LSTM  
**Frameworks/Tools:** Apache Spark, Hadoop, VertexAI, Jupyter Lab, NumPy, Pandas, Matplotlib, MS Tools, Canva  
**Databases:** SQL, Single Store DB, MongoDB, Big Query, Cloud SQL  
**Other:** Airflow, PyTest, Unit Test, Pylint, Coverage, Sphinx, GitHub Action, Azure DevOps, PowerBI, Looker, Unix

## EDUCATION

**Master of Applied Computing** (*Specialised in Artificial Intelligence*) Jan 2022 – Sept 2023  
University of Windsor, Windsor, Ontario  
**Bachelor of Engineering in Computer Science and Engineering** Aug 2017 – Jul 2021  
Dayananda Sagar College of Engineering, Bengaluru, India

## PROFESSIONAL EXPERIENCE

**Data Scientist | COOP**, Loblaws Companies Limited, Toronto, Canada Jan 2023 – Aug 2023  
**Promo Optimization Engine** (*Python, GCP, SQL, VMs, Jupyter Lab, RestAPIs*)

- Developed and executed an enhanced backtesting methodology for wholesale store groups, resulting in an additional \$35M in yearly revenue (based on yearly revenue in 2022).
- Pioneered the revamp of rating metrics for the backtesting pipeline of Promo Optimization Tool, introducing more interpretable and comprehensive metrics to evaluate model performance.
- Performed data analysis to identify competitors to Loblaws Divisions based on price differences for various products and integrated the feature to the front-end tool for Business to access the competition pricings.
- Spearheaded the development of a comprehensive newsletter team, resulting in a 30% increase in engagement.

**Data Scientist | Technical Writer**, OpenMined, Google, UK May 2022 – Dec 2022  
**PySyft** (*rST, Markdown, Canva, Figma, Git, Slack, Notion, Python, SQL, Jupyter Notebook*)

- Executed privacy-preserving machine learning and federated learning algorithms from PySyft library on sensitive and real private data.
- Built a one-click end-to-end testing CI/CD pipeline using GitHub actions.
- Created comprehensive Jupyter Notebooks guides and tutorials (Pull Request: #6633, #6669, #6759, <https://github.com/OpenMined/PySyft/pulls/abhiwalia15>) to facilitate knowledge sharing and collaboration within the open-source data science community.

**Junior Data Scientist | TESSACT**, Bengaluru, India May 2020 – Apr 2022

**Tech** (*Python, OpenCV, AWS [DynamoDB, S3, SageMaker], PySpark, Jira, Git, TensorFlow, NLP*)

- Improved RMSE and LogLoss metric of a machine learning model for a FinTech project by 1.35% by tactfully framing business problems and communicating challenges and results to key partners.
- Implemented end-to-end data solutions using cloud platforms, applying advanced analytical methods to manipulate and analyze large, complex datasets for actionable insights.
- Collaborated with cross-functional teams, including senior Data Scientists, to develop and implement scalable deployments scripts using SQL query processing methods in production environments for CI/CD.
- Designed and integrated various ETL processes using cutting-edge technologies such as AWS S3, Single Store, Lambda, Kafka, Cloud Watch, EC2, and API Gateway for efficient data processing and management.
- Consolidated data scraping strategies, encompassing dynamic scraping and API extraction, to prepare datasets.
- Developed and administered a robust Data Quality Validation Framework, establishing rules to ensure comprehensive data quality checks and processes.

## ACADEMIC PROJECTS

**Stocks Analysis & Prediction** (*Python, R, StreamLit, LSTM, APIs, NoSQL, TensorFlow, Git*)

**GitHub:** 36 Stars & 30 Forks (<https://github.com/abhiwalia15/AI-for-Finance-Stocks-real-time-analysis->)

- Designed and coded an interactive dashboard for predicting stocks prices (98% accuracy) for next 30 days.

**Learn Python for DS and ML** (*Pandas, NumPy, Jupyter Notebook, Plotly, Python*)

**GitHub:** 35 Stars & 14 Forks (<https://github.com/abhiwalia15/Python-for-Data-Science-and-Machine-Learning-Bootcamp>)

- Developed an extensive Python program covering data visualization, NumPy, pandas, web scraping, and machine learning with SciKit Learn.

**Facial Emotion Recognition** (*Python, TensorFlow, Keras, API, NLP, MongoDB, OpenCV, Git*).

**GitHub:** 6 Stars & 3 Forks (<https://github.com/abhiwalia15/Facial-Expression-Recognition>)

- Achieved 94% accuracy by designing a neural network architecture to recognize 7 types of emotions in real-time.

**Detecting Postures Deformities** (*Pose Estimation, Python, Deep Learning, OpenCV, Git, Matplotlib, Seaborn*)

**GitHub:** (<https://github.com/abhiwalia15/Sitting-Posture-Recognition>)

- Presented at the *MATJOURNALS, 2021*; awarded 'Best Paper Presentation' in the Machine Learning category.
- Elaborated on deep learning algorithms like BlazePose, DeepPose, OpenPose, etc. used for pose estimation.

**COVID-19 Cases Prediction** (*Python, Machine Learning, Data Science*)

**GitHub:** (<https://github.com/abhiwalia15/COVID-19>)

- Conducted time series analysis on COVID-19 data, identifying trends in affected cases, deaths, and recoveries.
- Created data visualizations and dashboards to share valuable insights with the data science department.

**IPL Team Prediction** (*Python, Pandas, seaborn, plotly-dash, cufflinks, numpy, jupyter notebook, MS Excel*)

**GitHub:** (<https://github.com/imhardikj/Team-Predictions>)

- Developed an extensive Python program covering data visualization, NumPy, pandas, web scraping, and machine learning with SciKit Learn.

## ACHIEVEMENTS

- **Data Science Writer**— Professional technical writer in Data Science domain (6+ years) holding 300+ articles with a background working for multiple magazines, publications, start-ups, open-source organizations, etc.
- **Google Season of Docs`22**— Aced a competition by Google to work with one of its open-source organization on a fully-funded project with a Data Science library named PySyft.
- **GitHub Excellence**— Recognized among India's top 100 contributors in 2020, with 3300+ commits across 30+ repositories with 50+ stars in personal projects.
- **Smart India Hackathon**— Received a silver medal (out of 50 teams) for presenting the project as tech lead from AI & ML Innovation Lab@DSCE at the National level.

## CERTIFICATIONS

- Microsoft Certified: **Azure** Fundamentals
- Side Hustle Strategies for **Data Science and Analytics Experts**, LinkedIn Learning
- Software Development Life Cycle (**SDLC**), LinkedIn Learning
- Planning and Releasing Software with **JIRA** (2018), LinkedIn Learning
- Git Started with **GitHub**, Git
- **Machine Learning with Python**, Coursera-**IBM** (9 Courses)
- **Data Science** Professional Certificate, Coursera-**IBM** (9 Courses)
- Feature Engineering with **PySpark**, DataCamp