

# Sukhwinder Singh

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908, Street 03, Anand Nagar A, Patiala, India

## Summary

I am an accomplished Python Developer proficient in Machine Learning, neural networks, and cloud deployment with a robust three-year track record. My academic interface includes a key earning of a Master's with honours. Engaged in freelancing Generative AI projects and teaching on SuperProf, I showcase continuous learning and knowledge sharing. Excited about the prospect of contributing my technical skills, adaptability, and innovation to your team.

## Technical Skills

- Programming languages: Python, Java, JavaScript, spark.
- Python API:- Spyder, Jupyter, and pyspark, Django, Flask
- SaaS Product: Django, Django Rest Framework (DRF), MySQL.
- Visualization Tools: Power BI, Tableau
- relational databases: - SQL, MySQL,
- Agile: Test Driven Development, Jira.
- Strong analytical and problem-solving skills
- Good communication skills, time management, and attention to detail.

## Experience

### Machine Learning Developer

2023/05 - present

*Freelance.*

Digital-Village.co.in

- Developing an Information Technology -based system for weed detection and crop disease identification using visual data, such as images or videos.
- Preprocessing (Resizing, normalizing, and augmentation) of the data using image-based software and splitting the data into train: test: Validation.
- Developing a machine learning models for weed decision-making using preprocessed data and model training to implement real-time weed detection on images or video streams.
- Creating a decision support system with real-time insights and recommendations.

## Academic Peer Tutor

2022/09 – 2023/05

Artificial Intelligence – Architecture Design and Implementation

Georgian College, Barrie, Ontario

- Developed and delivered tutoring sessions on Artificial Intelligence topics, including machine learning algorithms, deep learning algorithms, neural networks, and AI data structures.
- Conducted hands-on workshops on AI frameworks such as TensorFlow, hardware and PyTorch.
- Integration and maintained online resources, including study materials and coding examples, to support student learning.

## Research Fellow (Software Engg), [28 months]

2019/08 - 2021/11

Council of Scientific & Industrial Research,

India

- Collection and upload of observations from crop fields using the Internet of Things (IoT).
- Visualise all acquired observations from the fields over the web portal for the public interest using Power BI.
- Built real-time data processing solutions: Data Processing, Data Cleaning, and Feature Engineering on the acquired data.
- Collaborate data transformations using Python and SQL to transform and clean data.
- Implements and tunes the problems on the multi-machine learning and statistical modelling with different hyper-parameters.
- Implementing, predicting, and validating the artificial results with the actual observations.
- Uploading the machine learning model on the Heroku server for online and automated predictions of the Agri-contents.
- Worked closely with cross-functional teams to Collaborate requirements and design solutions for data-driven projects.

## Education

Post Graduate Certification in Big Data Analytics

2022-2023

*(Georgian College of Applied Arts and Technology, Barrie, Ontario)*

Post Graduate Certification Artificial Intelligence

2022-2022

*(Georgian College of Applied Arts and Technology, Barrie, Ontario)*

Master of Science in Computer Science

2017 – 2019

*(Thapar Institute of Engineering and Technology, India)*

### Publication(s)

- Singh, S., Kaur, S., & Kumar, P. (2020). Forecasting soil moisture based on evaluation of time series analysis. In *Advances in Power and Control Engineering* (pp. 145-156). Springer, Singapore. 10.1007/978-981-15-0313-9\_11
- Singh, S., Alam, P., Kumar, P., & Kaur, S. (2019, November). Internet of Things for Precision Agriculture Applications. In *2019 Fifth International Conference on Image Information Processing (ICIIP)* (pp. 420-424). IEEE., 10.1109/ICIIP47207.2019.8985688
- Singh, S., Kaur, S., & Kumar, P. (2019, July). Forecasting soil moisture based on evaluation of time series analysis. Thapar Institute of Engineering and Technology, India.

### Certifications

- Earned Dean's list for all semesters while courses at Georgian College.
- Microsoft Certified: Azure Data Engineer Associate
- AWS Certified Data Analytics – Cloud Foundation
- AWS Certified Data Analytics – Machine Learning

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Patiala, India

I am an experienced Python Developer seeking an opportunity at your Organization. I have a strong track record of three years and look forward to bringing my skills and abilities to the team. I am highly adept at handling various responsibilities by prioritizing tasks, establishing clear deadlines and finding creative solutions to eliminate obstacles. My experience has equipped me with the necessary tools to succeed in this position:

- Machine Learning (Supervised, Unsupervised and Reinforcement)
- Feature Extraction (Data Acquisition, Data Cleaning, and Data Processing)
- Neural Network (keras, Pytoruch, Tensorflow and CUDA)
- cloud Model Deployment (Microsoft, Google and Heroku)
- Internet of Things (Raspberry, Arduino, Thinkspeak, and Sensors)

In my experience, I developed models for the domain of agriculture, such as optimization of water using water-valve with machine learning, Internet of Things and cloud computing, detection of adult food using deep learning models, and crop weed detection. Apart from these major projects, the Conversational Bot uses Alexa and the Self-driving bot uses Nvidia Jetson were submitted as academic projects. I am grateful for the opportunities afforded to me in my prior position; I am ready to embark on a new career path that offers new challenges for me to put my skills to use.

Upon evaluating my resume, you will note a gap of 2 years. I went into medical treatment for 1.5 years. In April 2017, I enrolled in the Master's and grabbed the position of Software Fellow after graduation. After successfully submitting the project, I moved to Canada and enrolled in the Artificial Intelligence and Big Data Analytics program at Georgian College. In school, I earned a position as a peer tutor and graduated with honors. Currently, I am freelancing on a project as well as teaching students on SuperProf.

I've attached my resume with additional work experience and qualifications details. If you have any questions, please feel free to contact me.

Sincerely,

Sukhwinder