

# Manpreet Singh

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Programming Language – Python

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## Education

### Masters of Computer Science

Jan 2023 – Present

Dalhousie University – *Halifax, NS, Canada*

### Bachelors of Computer Applications

May 2016 – May 2019

Guru Nanak Dev University College – *Jalandhar, India*

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## Research Experience

### CS Graduate Student

Jan 2023 – Present

Dalhousie University – *Halifax, NS, Canada*

- Engaged in ongoing research on **neural network interpretation** to better understand the inner workings of neural networks. This study involves examining individual neuron functions to improve model transparency and reliability. The aim is to develop practical methods that enhance the interpretability of neural networks, contributing to more ethical AI practices.
  - Explored **manifold learning methods** to investigate the intricate, high-dimensional landscape of NLP token embeddings, focusing on identifying key patterns and hidden biases. This involved blending theoretical insights with hands-on experiments, utilizing cutting-edge manifold techniques to unravel and make sense of NLP tokenization complexities.
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## Work Experience

### AI Solutions Engineer

Jul 2019 – Oct 2022

Tata Consultancy Services – *Chennai, India*

- Built an **NLP chatbot using Rasa** to streamline coding tasks, resulting in a 25% increase in developer productivity.
  - Engineered a Computer Vision application that transforms **2D architectural blueprints into 3D** visual models, revolutionizing how architects and clients interact with plans.
  - Developed a GPT-3 powered bot designed to translate **English text into SQL queries**, featuring dynamic prompt engineering for optimized database interactions. The bot was specially tailored to interface with a **custom database schema**, providing a highly user-friendly and context-aware querying experience.
  - Conducted lectures on Python and Artificial Intelligence, **mentored new joiners**, and **supervised project** timelines and deliverables as part of the onboarding process for over **100** junior engineers.
  - Excelled in an initial 20-week intensive training program focused on AI and machine learning, securing a rank within the **top 0.5%** among a cohort of 1000 trainees. This strong foundation contributed to my subsequent contributions in machine learning and AI projects, including chatbot and Computer Vision application development.
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## Recognition and Awards

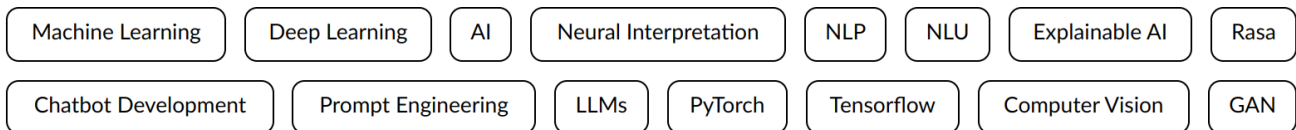
- Showcased a cutting-edge Neural Style Transfer project during the visit of India's Honorable Education Minister to Ignite, TCS, receiving high-level recognition for innovation in AI.
  - Secured first place in the Plasma Quiz GK college, showcasing extensive knowledge in science and technology.
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## Skills

### Software Development and Web Technologies



### Machine Learning and AI



### Management and Leadership

