

# Sneha Balasubramoni

[LinkedIn](#) | [GitHub](#) | snehabalaji74@gmail.com | +65 9716 7804

## Professional Summary

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AI Engineer and Master's student with a strong foundation in NLP, LLMs, and machine learning. Has research and industry experience in developing applied AI systems. Skilled in Python, deep learning frameworks, and NLP techniques, with hands-on experience in recommendation systems, information retrieval, and model evaluation.

## Education

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**Nanyang Technological University** August 2025 - August 2026  
M.Sc. in Artificial Intelligence

- **Coursework:** Machine Learning Methodologies & Applications, Deep Learning & Applications, Mathematics for Artificial Intelligence, Deep Neural Networks for NLP, GenAI for Visual Synthesis

**Amrita School of Computing** July 2019 - July 2023  
B.Tech in Computer Science and Engineering (Artificial Intelligence)

- **GPA:** 9.01/10
- **Coursework:** AI in Natural Language Processing, Deep Learning for Signal & Image Processing, AI in Speech Processing, Deep Reinforcement Learning, Big Data Analytics

## Work Experience

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**AI Data Science Engineer I** July 2023 – July 2025  
Medtronic - Hyderabad, India

- Designed and deployed an NLP + ML recommendation system for the Diabetes Complaint Handling Unit, saving 2000 man hours annually and streamlining case resolution.
- Analyzed 10,000+ medical device complaints using advanced statistical methods (Poisson Threshold, EWMA, OBE) to detect early signals of product quality and reliability issues.
- Awarded **Best Rookie** among 200 candidates for driving strong technical results.

**Technical Intern** Feb 2023 – July 2023  
Medtronic - Hyderabad, India

- Built an OCR + Power Automate workflow to streamline regulatory email uploads, saving 500+ hours annually and enhancing compliance.

**Data Science and Business Analytics Intern** Jan 2021 – Feb 2021  
The Sparks Foundation - Remote

- Performed sales analysis on a business to identify opportunities for increased profitability, leveraging Tableau and Power BI for data visualization and insights.
- Developed a predictive model to estimate student performance based on study hours and forecast scores.

## Projects

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**Natural Question Generation System** | [Code](#)

- Trained on the SQuAD dataset to improve question generation, question answering, and information retrieval using Reinforcement Learning and NLP.
- Technologies used: PyTorch, T5 Transformer (HuggingFace).

**ROS Line Follower Bot** | [Code](#)

- Designed a line-follower Waffle-Bot capable of navigating turns on custom tracks by interpreting line positions via computer vision.
- Technologies used: Python, ROS, OpenCV, Gazebo.

**Attendance Tracker** | [Code](#)

- Modeled a face recognition system using seven states in an HMM to identify faces and fetch details from a database.
- Technologies Used: Matlab, GUIDE (for GUI), MySQL.

## Awards

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### Consolation Prize in the Go AI for Social Good Hackathon

June 2022

*Issued by Institute of Electrical and Electronics Engineering (IEEE)*

Implemented a Reddit Mental Health chatbot, that identifies the type of mental health issue using NLP and suggests potential remedies by providing helpline numbers and relevant articles.

## Skills

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**Programming Languages:** Python, R

**AI & Machine Learning Frameworks:** TensorFlow, PyTorch, Scikit-Learn, Keras

**Data Analysis & Visualization:** Pandas, NumPy, Matplotlib, Seaborn, Plotly, Tableau, PowerBI

**Natural Language Processing Libraries:** SpaCy, NLTK, Hugging Face Transformers, Gensim

## Publications

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- Thangam, U Kumaran, Dipshikha Biswas, B Sneha, Suneel Nadipalli, and Saleem Raja.** "Text Post-Processing on Optical Character Recognition Output Using Natural Language Processing Methods." *Proceedings of the 2023 IEEE 3rd Mysore Sub Section International Conference (MysuruCon)*, IEEE, 2023, pp. 1-6, doi: 10.1109/MysuruCon59703.2023.10396964. 2023
- Biswas, Dipshikha, Suneel Nadipalli, B. Sneha, Deepa Gupta, and Amudha J.** "Natural Question Generation Using Transformers and Reinforcement Learning." *Proceedings of the 2022 OITS International Conference on Information Technology (OCIT)*, IEEE, 2022, pp. 283-288, doi: 10.1109/OCIT56763.2022.00061. 2022
- Biswas, Dipshikha, Suneel Nadipalli, B. Sneha, and M. Supriya.** "Speech Recognition Using Weighted Finite-State Transducers." *Proceedings of the 2022 IEEE 7th International Conference for Convergence in Technology (I2CT)*, IEEE, 2022, pp. 1-5, doi: 10.1109/I2CT54291.2022.9824703. 2022
- Biswas, Dipshikha, Sarada Jayan, Suneel Nadipalli, Sneha B., and Subramani R.** "Attendance Tracking with Face Recognition Through Hidden Markov Models." *Proceedings of the 2022 International Conference on Electronics and Renewable Systems (ICEARS)*, IEEE, 2022, pp. 1640-1645, doi: 10.1109/ICEARS53579.2022.9751888. 2022