

# SPANDANA A P

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## EDUCATION

### BNM Institute of Technology

Bachelor of Engineering in Computer Science and Engineering (CGPA: 9.63)

Bengaluru, Karnataka

2022 – Present

## TECHNICAL SKILLS

**Languages:** Python, Java, C, SQL

**AI/ML/Data Science:** Machine Learning, Deep Learning (TensorFlow, Keras), NLP, Reinforcement Learning, RAG, Scikit-learn, Pandas, NumPy, Matplotlib, Exploratory Data Analysis

**Tools & Frameworks:** MongoDB, MySQL, Git, React, Android Studio, MuJoCo, Streamlit

**Core CS:** Data Structures & Algorithms, Problem Solving, Predictive Modeling

## WORK EXPERIENCE

### Project Intern | 🤖

July 2025 – Dec 2025

IIT Madras (CoPhe Lab)

- Developed a **dual-policy Reinforcement Learning** framework for bio-inspired navigation agents.
- Simulated complex robotics environments in **MuJoCo physics engine** using dung beetle-inspired strategies.

### Intern | 🤖

Jun 2025 – July 2025

Sasken Technologies Limited

- Developed **TechQABot** using agentic and generative AI to answer technical Python queries.
- Leveraged data from Stack Overflow and Reddit to train a highly responsive community bot.

### Software Engineering Intern | 🌐 Website

July 2025 – Jan 2026

Karnataka PU Board (Deputy Director Office)

- Developed **"INSIGHT"**, a unified digital communication platform for 400+ colleges using secure workflows.
- Implemented chat interfaces, circular pages, and infrastructure management modules; Beta launched Dec 2025.

### AI Intern

April 2025 – Jun 2025

Appzera (OPC) Private Ltd.

- Developed a **RAG-based chatbot** for personalized university recommendations with humanized responses.
- The bot responded with a list of universities based on courses, country, fee, scholarships, etc., suitable for the user.

### Intern

Jan 2025 – Mar 2025

U R Rao Satellite Center - ISRO

- Research on **Quantum Machine Learning** and brought in a **comparative analysis between classical vs Quantum Phase Estimation**.

## KEY PROJECTS

### Verbal Ability Grading System | 🤖

- Developed an AI-driven tool for IELTS/TOEFL style assessment using **ASR (Google)** and NLP.
- Analyzed phonetic signals via **Librosa** and linguistic accuracy via **SpaCy** for fluency and grammar scoring.
- Implemented a weighted scoring model to generate component-wise feedback and PDF performance reports.

### GreenLoop | 🌐 Live


- Built a **Could-based AI** automated waste detection system using **YOLOv8**, trained on custom Roboflow-annotated datasets.
- Deployed on **Streamlit Cloud** to ensure global access with zero infrastructure maintenance costs.

### Shakers App (ISRO - URSC) | Android, Decision Support Systems

- Developed a decision support system recommending shaker systems for vibration tests using historical engineering data and utilized **Bitwise AND operations** for hexadecimal PCD (Interface) matching to identify hardware suitability.

## RESEARCH & PUBLICATIONS

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1. R. C. K. Raghavendra, N. G. Smaran, **A. P. Spandana**, D. Vijay, and M. V. Vishruth, "Identifying Patterns and Trends in Campus Placement Data Using Machine Learning," *IJEME*, vol. 15, no. 1, pp. 10–24, 2025.
2. P. S, **S. A P**, S. P, Sridevi and S. Sneha, "Multi-Modal Data Exploration and Analysis for Predicting Severity Impairment Index Using Actigraphy," in *Proc. IEEE ICCTDC-2025*, pp. 1–5, doi: 10.1109/ICCTDC64446.2025.11158835.
3. S. Geetha, **A. P. Spandana**, et al., "Soft Alert Generation for Student Dropout Mitigation by Machine Learning Algorithms," in *Proc. IEEE IITCEE*, Jan. 2025, doi: 10.1109/IITCEE64140.2025.10915221.
4. **S. A P** and J. A P, "A Survey on the Usage of Numerous Machine Learning Models for Agriculture," in *Proc. IEEE IITCEE*, Mar. 2024, doi: 10.1109/IITCEE59897.2024.10467305.
5. **A. P. Spandana**, et al., "Real-time Structural Health Monitoring System Using IoT," in *Futuristic Trends in IoT*, e-ISBN: 978-93-6252-126-2, IIP Series, 2024.
6. **Copyright**  **ROC**: "NetAware: Activity-Based Prediction of Internet Misuse," Registered under Indian Copyright.

## ACHIEVEMENTS

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- **Runner-up of 8th National Level IEEE Project Competition-2024** at GSSSIETW, Mysore.
- **Runner-up of Generative AI Hackathon** conducted by Pantech e-Learning.
- Awarded **Merit Scholarship** for topping the department in both 1st and 2nd semesters.
- **Finalist in the Matrix Forum University Awards 2025** conducted by TiE Bangalore.

## CERTIFICATIONS

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- **Artificial Intelligence for Economics** – NPTEL (IITK)
- **AI Business Intelligence Analyst** – NCVET (Govt. of India)
- **Machine Learning for Engineering** – NPTEL (IITM)
- **Journey to Cloud: Envisioning Your Solution** - IBM
- **Getting Started with Enterprise Data Science** - IBM