



# Keerthana S

Roll No.:210103065

B.Tech - Mechanical Engineering

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GitHub | LinkedIn

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## EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. Major	Indian Institute of Technology, Guwahati	6.9	2021-2025
Senior Secondary	Kerala State Board	98.08%	2021
Secondary	Kerala State Board	99%	2019

## EXPERIENCE

- Data Engineer Intern | Harvard University** *Jun.2024 - Jul.2024*
  - Implemented web scraping algorithms like Automated and API based for **IEEE** and **ACM** conference papers
  - Scraped over **45,000+** research papers and calculated LLM tokens(**200 million+**) using **OpenAI GPT-4 tokenizer**.
  - The collected material is crucial to validate the model's accuracy using **OpenAI Models(GPT-3.5, GPT-4o, GPT-4)**
- AI/ML Intern | Spire Lab, Indian Institute of Science** *May.2024 - Jul.2024*
  - Coarticulation on velar consonants /k/ and /g/ in VCV sequence, analyzing **74 subjects x 7 frames = 3108** data.
  - The resulted (**p-values nearly 0.0001**) in the data analyze the symmetry among the frames in each subject.
  - Euclidean distance analysis shows that significant differences(**p-value<0.05**) occur at point **-3** in the VCV sequence.
- AI/ML Intern | Indian Institute of Space-Science and Technology** *May. 2023 - Jul. 2023*
  - Developed a **custom CNN architecture** for emotion detection with **0.89%** accuracy, surpassing pre-existing models.
  - With improved FER performance, able to address the limitations and provide a liable tool in current FER systems.
  - Resulted in a **4.5% increase** in accuracy and enhanced performance in recognizing and classifying emotions.

## PROJECTS

- Monitoring of Manufacturing Process using Deep Learning | BTech Project** *Github | Aug.2024 - Apr.2025*
  - Custom CNN achieved **99.99%** training accuracy and **100%** validation accuracy, outperforming pre-trained models.
  - ResNet50 got training(**99.88%**) but only validation(**46%**); VGG19 achieved **98.34%** training and **95%** validation.
  - Precision, Recall, and AUC** showed above **0.93** during training, over **100** epochs and **500** steps per epoch.
- Resume Job Matcher** *Github | May. 2025 - Jun.2025*
  - Evaluates job description using **Groq's meta-llama**,delivers a match score,skill gaps and improvement suggestions
  - Structured prompts** and response parsing logic, **token window management**, and output formatting in JSON.
  - FastAPI** to handle resume & JD inputs, managed **API keys** and coordinated **LLM** response pipelines for real-time
- Knowledge Enhanced Multi-intent Transformer Network for Recommendation | Group Project** *Github | Oct. 2024*
  - Developed **KG-TN** by modeling user intents through global collaborative and knowledge information
  - Achieved **state-of-the-art performance** on three benchmark datasets and improved recommendation accuracy
  - Utilized graph transformers for **global intent learning** and **contrastive learning** for effective knowledge denoising.
- Facial Emotion Recognition | Image processing - IIST Trivandrum** *Github | May-Jul. 2023*
  - Classified emotions from Facial images into **seven** categories using a supervised learning approach.
  - Developed a **custom CNN model** for pre-processed **FER2013** and **CK+**, and validated against pre-trained models.
  - CNN model achieved an accuracy of **0.89**, outperforming pre-trained models: **VGG(0.8571)**, and **ResNet50(0.8571)**.
- Parental involvement in Child's Education | Research Industrial Conclave Hackathon** *Github | Aug. 2024*
  - Analyzed a test accuracy of **0.716** for the support of parents on students' mental health at the age of 15-24 years.
  - Significant correlation between depression with anxiety(**0.35**), panic attacks(**0.25**), and treatment(**0.27**) respectively.
  - Correlation between mental health issues and family support appears to be about **0.023265** during COVID-19.

## TECHNICAL SKILLS

- \* **Programming:** Python(NumPy, pandas, scikit-learn), C, CPP, HTML, CSS, Javascript, React\*, R\*
- \* **Miscellaneous:** Git, MySQL, Power BI, GSSOC(open source), Cloud Management\*
- \* **ML Frameworks:** Keras, TensorFlow, PyTorch, LLM, PySpark\* *\*Elementary Proficiency*

## KEY COURSES TAKEN

- \* **Mathematics:** Linear Algebra, Data Science Maths(Duke University)
- \* **Artificial Intelligence:** Recommendation System Design Using Deep Learning, Computing with Signals.
- \* **MOOC's:** Deep Learning Specialisation by DeepLearning.AI, AI programming with Python

## ACHIEVEMENTS

- **AWS AI and ML Scholarship**,Selected as one of the 1,000 students who applied for the program globally *2024*
- **Multi-Class Prediction of Obesity Risk Kaggle Competition**,Secured a rank of **417 out of 3587** participants *2024*
- **LeetCode**,Maximum Rating: 1593 | Weekly Contest 414: Secured a Rank of 3052 | Ranked in top 24.24% *2024*
- **Project at UIT Norway**,Selected as one of the 50 students nationwide for this remote internship. *2024*
- **Playground Series S3E11 Kaggle Competition**,Secured a rank of **69 out of 952** participants *2023*
- **All India Women Hackathon**,Selected among 50 semi-finalist out of **1000+** participants *2023*