Achyuth K

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EDUCATION

· **PES University (RR Campus), Bangalore**

Bachelor of Technology in Computer Science and Engineering

· **Pre-University (PUC), (96% PCM) | 10th (SSLC), Central Board of Secondary Education (CBSE) (93.8%)**

ABOUT ME

– I am Achyuth, currently in my 4th year of B.Tech. I have a strong interest in problem-solving, data structures algorithms, machine learning, NLP, and parameter-efficient fine-tuning methods such as LoRA. I am also enthusiastic about cybersecurity and exploring Web3 technologies including blockchain-based systems.

EXPERIENCE

· **Center for Cloud Computing and Big Data (CCBD), PES University**

Jun 2025 – Jul 2025   Intern

– Engineered a LoRA-based fine-tuning pipeline (4-bit quantization) on Mistral-7B-Instruct, with additional experiments on Phi-2 and TinyLlama-1.1B.

– Trained on a schema-aware dataset of over 4,000 NL–DSL query pairs, achieving a 70% structural similarity score on the fine-tuned Mistral model.

– Planning to publish a research paper detailing this work and its results.

PERSONAL PROJECTS

· **Adaptive Text Summarization with Tailored Readability for Kannada**   *Ongoing*

Developing a controllable summarization model for Kannada text

– Built a custom Kannada summarization dataset by translating existing English corpora and assigning readability scores.

– Designed a modular pipeline for text normalization, morphological analysis, and readability-controlled summary generation.

– Iteratively refining the model based on human evaluations and targeted readability metrics.

· **MentorAI – AI-Powered Study Companion**

A full-stack web app integrating PDF-based AI chat, personalized study plans, and focus tools to enhance student productivity.

– Enabled users to upload PDFs, query document content, auto-generate study schedules, and manage focus sessions via a Pomodoro timer.

– Built a Retrieval-Augmented Generation (RAG) pipeline with HuggingFace embeddings and FAISS for accurate, context-aware responses.

– Tech Stack: Next.js, TypeScript, Tailwind CSS, Google Gemini API, MongoDB.

· **Foodie Express:- A Food Delivery Web Application**

A food delivery platform built for the OOAD course, showcasing real-world use of design principles and multiple design patterns.

– Enables users to browse menus, place orders, and track deliveries, with restaurant-side management and live updates.

– Applied Strategy (for delivery methods), Observer (for notifications and order tracking), Abstract Factory (for UI components), and Decorator (for flexible menu item customizations).

– Technology Used: Java, Spring Boot, Thymeleaf, HTML, CSS.

· **Audia Hub:- A web music player**

A website where you can listen to music and podcasts and have fun.

– This lets users stream and manage their music library directly in a browser. It features playlist creation, search, and responsive design for seamless listening across devices.

– Technology Used: Javascript, MongoDB, React, CSS, HTML.

TECHNICAL SKILLS AND INTRESTS

Languages: C/C++, Python, JavaScript, TypeScript, SQL

Frameworks & Libraries: PyTorch, TensorFlow, React.js, C++ STL

Tools & Platforms: Git, Docker, VSCode, Postman

Databases: MongoDB, MySQL, PostgreSQL, Elasticsearch

Interests: Machine Learning, NLP, Parameter-efficient fine-tuning (LoRA), Cybersecurity, Blockchain/Web3

Soft Skills: Problem Solving, Self-Learning, Adaptability