

Pradeep Maddoju

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Professional Summary

Aspiring and detail-driven software developer with hands-on experience in building full-stack web applications and AI-powered tools through academic and personal projects. Proficient in Python, Java, and the MERN stack, with a solid understanding of RESTful APIs, cloud functions, and machine learning workflows. Built and deployed real-world solutions like AI-driven Q&A systems and predictive models, demonstrating the ability to create scalable and efficient software. Passionate about solving real-world problems through technology, and excited to contribute my skills to the innovative team at Ivanti. Looking forward to learning from industry experts and growing as a developer while contributing meaningfully to Ivanti's mission.

Projects

1. Transformer-Based Language Model for Material Properties Prediction

Machine Learning & Full-Stack Integration

— Nov 2024 – Feb 2025

- **Tech Stack:** Python, PyTorch, Hugging Face, RDKit, MongoDB, React, Node.js
- Designed a transformer model to predict polymer properties (like melting point, tensile strength) using SMILES notation.
- Implemented a chemical-aware tokenization pipeline using RDKit to extract molecular structure features for training.
- Fine-tuned the model by optimizing MAE and RMSE, improving prediction accuracy on limited domain-specific data.
- Built secure APIs and integrated the model with a React frontend to allow real-time, user-friendly property prediction.
- **Impact:** Reduced prediction time by 90%, speeding up polymer screening and material research processes.

2. Chat-With-Author (AI-Powered Q&A System)

NLP-Driven Solution

— Apr 2024 – Jul 2024

- **Tech Stack:** MERN, QLoRA (PEFT), Pinecone, OpenAI API, Streamlit
- Developed a question-answering system for books/research papers with context-aware, citation-based replies.
- Integrated Pinecone for vector-based semantic search and QLoRA to fine-tune models efficiently on limited hardware.
- Combined GPT-powered responses with document chunking and deployed a clean UI using Streamlit.
- Backend built with Node.js, featuring token-authenticated routes to ensure security of user data and queries.
- **Impact:** Reduced research time by 40% by automating context-specific answer retrieval from large documents.

3. Online Integrated Platform for Project Showcase

MERN Stack Web Application

— Nov 2023 – Feb 2024

- Created a platform for students to submit, manage, and browse projects based on departments and domains.
- Integrated Firebase for secure authentication, MongoDB Atlas for scalable storage, and React for dynamic UI.
- Backend APIs developed in Express to support search, filtering, and real-time updates across all project entries.
- UI optimized for responsiveness, ensuring seamless experience across mobile and desktop devices.
- **Impact:** Centralized project hosting across colleges, boosting peer learning and inter-departmental visibility.

Skills

- **Languages & Frameworks:** Java, Python (PyTorch), JavaScript (Node.js, React.js), MongoDB, DSA
- **Cloud & DevOps:** Firebase (Auth, Cloud Functions), REST APIs, Scalable architectures
- **AI/ML:** Transformer models, NLP pipelines, Predictive analytics
- **Methodologies:** Agile development, Cross-functional collaboration
- **Tools & Libraries:** Git, Streamlit, Pinecone, RDKit, Hugging Face
- **Soft Skills:** Teamwork, Problem-solving

Education

Neil Gogte Institute of Technology, Hyderabad, Telangana

B.E. in Computer Science and Engineering

— (Expected Jun 2026)

GPA: 8.77 | Top 8.8% at Osmania University

Shrinidhi Junior College, Suryapet, Telangana

— **Intermediate (2022)** Final Grade: 97.1%

New Millennium High School, Suryapet, Telangana

— **Matriculation (2020)** GPA: 10/10

Personal Information

- Interests: Playing Chess, Carrom
- Languages Known: English, Hindi, Telugu