

Chandradithya Jonnalagadda

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EDUCATION

Indian Institute of Technology (IIT), Tirupati

B.Tech in Computer Science and Engineering (Grade: 9.32/10.0)

Tirupati, India

2021 - 2025

TECHNICAL SKILLS

Programming Languages: C, C++, Python, Java, JavaScript, MySQL

Frameworks: Unsloth, PyTorch, PyTorch Geometric (PyG), TensorFlow, Keras, MERN, ROOT, Gymnasium, StableBaselines

Libraries & Tools: HuggingFace, LangChain, LangGraph, Git, Vim, Docker, ImageJ, Ultralytics

PROJECTS

Risk-Sensitive Reinforcement Learning

Aug 2024 – May 2025*

Bachelor's Thesis, Advisor: Dr Ajin George Joseph

RL Theory, Gymnasium, PyTorch

- Developing risk-sensitive reinforcement learning frameworks leveraging stochastic approximation to enhance the robustness and reliability of autonomous agent behaviors in uncertain environments
- Developed risk-sensitive variations of the Soft Actor-Critic algorithm
- Extended risk-sensitive reinforcement learning algorithms to multi-agent settings, achieving a 5% performance improvement over state-of-the-art methods

Inter IIT Tech Meet 13.0: Dynamic Agentic RAG System

Nov 2024 – Dec 2024

Link to Final Report

RAG, WebRAG, LLMs, Guardrails, CoT

- Designed and implemented a modular Dynamic Agentic RAG system to assist users with understanding privacy policies
- Integrated web search with error handling and rate limiting, database retrieval, Chain-of-Thought, and generated an evidence graph for effective representation of the context
- Achieved 91% Accuracy of Correctness (AoC) with a response latency of 2 minutes and 13 seconds per query

Digitizing Doctor's Prescriptions

Jan 2024 – May 2024

Research Project, Guide: Dr Kalidas Y

Python, PyTorch, HuggingFace, ImageJ

- Created an end-to-end DL model to digitize a prescription image
- Conducted literature review on existing handwritten text segmentation techniques
- Replicated the state of the art pixel-level and paragraph-level handwritten text recognition techniques and applied them to our self-made prescriptions dataset

MiFeMoDEP: Mixed Feature Model for Defect Prediction

Feb 2024 – Apr 2024

<https://github.com/ChandradithyaJ/MiFeMoDEP>

Python, PyTorch, PyG, gensim

- Leveraged CodeBERT and CPGs to extract semantic and flow information
- Extract defect probability scores using LIME
- Achieved similar performance as the state-of-the-art models when trained on only 10% of the dataset (20k/200k files)

Inter IIT Tech Meet 12.0: Tool Augmentation of LLMs

Nov 2023 – Dec 2023

Link to Final Report

LLMs, Prompt Engineering, LoRA, QLoRA

- Designed and implemented a framework to augment LLMs with tools to enhance capabilities
- Finetuned open-source LLMs like LLaMA and closed-source LLMs like GPT4 on a custom built (tool, tool args) dataset
- Optimized LLM accuracy to 72% while reducing cost to \$0.0027 per query

EXPERIENCE

Robert Bosch Center for Data Science and AI (IIT Madras)

May 2024 – Jul 2024

Research Intern, Advisor: Prof Balaraman Ravindran

Chennai, India

- Implemented novel graph explainability techniques for Heterogeneous Graph Neural Networks (HGNNs) in PyG, improving model interpretability and transparency
- Developed GNNs for legal and medical applications, achieving AUCs of 0.94 and 0.86, and F1 scores of 0.78 and 0.88 (both multilabel) on the Legal Judgment Prediction and Medical Procedure Necessity Prediction tasks, respectively

Department of Computer Science and Engineering, IIT Tirupati

Aug 2023 – May 2025*

Undergraduate Teaching Assistant

Tirupati, India

- CS307L - Artificial Intelligence (Spring 2025; Head TA)
- CS301P - Compiler Design Laboratory (Fall 2024; Head TA)
- CS305P - Operating Systems Laboratory (Fall 2024; Head TA)
- ES109L - Introduction to Data Science and ML (Spring 2024)
- ES104M - Introduction to Programming (Fall 2023)

Chimple Learning

Jun 2023 – Jul 2023

Software Development Intern

Bengaluru, India

- Developed a Multiplayer Quiz Functionality for the Chimple Learning App using ReactJS and Google Firebase
- Extensively used Git for version control and GitHub Pages for test hosting

POSITIONS OF RESPONSIBILITY

Club Head <i>Sigma Squad (AI/ML Club)</i> <ul style="list-style-type: none">• Mentoring students in club projects on LLMs, RL and Deep Learning for Computer Vision• Developed an efficient and lightweight RAG-based chatbot for IIT Tirupati• Organized and conducted workshops and hackathons• Core Member (Jul 2023 - Jun 2024)	Jun 2024 – May 2025* IIT Tirupati
CSE Student Internship Representative <i>Career Development Centre</i> <ul style="list-style-type: none">• Coordinated corporate and academic summer internship opportunities for over 60 students• Proposed and implemented a 6-month internship plan for final-year students	Jun 2023 – May 2024 IIT Tirupati
UG Buddy <i>Sarathi: Guidance and Counselling Unit</i> <ul style="list-style-type: none">• Mentored freshmen in academic and non-academic matters	Nov 2022 – Jul 2023 IIT Tirupati
Core Committee Member, Graphics, Design, and Content Development Committee <i>Tirutsava 2k23</i> <ul style="list-style-type: none">• Designed posters, edited videos, wrote content (emails, descriptions, and write-ups) and organized IIT Tirupati's annual techno-cultural fest	Dec 2022 - Apr 2023 IIT Tirupati

NOTABLE ACHIEVEMENTS

<ul style="list-style-type: none">• Top 7 in the high prep statement AI Agent 007 on the Tool Augmentation of LLMs for the Inter IIT Tech Meet 12.0 (December 2023)• Top 2% (top 10) of all students in the course Getting Started with Competitive Programming on NPTEL (November 2023)• Top 0.04% [All India Rank 443] in the Joint Entrance Examination(M), top 0.04% (September 2021)

RELEVANT COURSES

Machine Learning, Reinforcement Learning, Artificial Intelligence, Stochastic Decision Processes, Computational Methods in Optimization, Games and Information*, Deep Learning*, Data Structures and Algorithms, Design and Analysis of Algorithms, Database Systems, Software Engineering, Probability and Statistics, Linear Algebra

CERTIFICATIONS

<ul style="list-style-type: none">• (Coursera) Deep Learning Specialization	<ul style="list-style-type: none">• (NPTEL) Getting Started with Competitive Programming
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OTHER INTERESTS

<ul style="list-style-type: none">• French and Spanish	<ul style="list-style-type: none">• Video Editing	<ul style="list-style-type: none">• Cricket (Sport)	<ul style="list-style-type: none">• Quizzing
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