

Utkarsh Gupta

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SUMMARY

Passionate software developer with hands-on experience in full-stack web development and machine learning.

WORK EXPERIENCE

Summer Research and Development Internship 2024

May 2024 - July 2024

Worked under Professor Dr. Koteswarao Kondepu on **Radio Access Networks and 5G Technologies** at IIT. Developed and executed experiments on Kubernetes (K8s)-based 5G system architecture, conducted detailed studies on vRAN Energy Profiling using resource profiling software tools, and implemented monitoring solutions using Prometheus and Grafana. Employed technical skills in Linux, scripting, and automation to optimize system performance.

TECHNICAL SKILLS

Languages	Python, C, C++, Java (basic)
Machine Learning & Data Science	Scikit-Learn, PyTorch, Keras, TensorFlow, Pandas, NumPy, Matplotlib
Web Development	HTML, CSS, JavaScript, ReactJS, ExpressJS, Flask, MySQL
DevOps & Cloud	Kubernetes, Docker, Git, Prometheus, Grafana, Linux
Key Courses	Data Structures and Algorithms, Design and Analysis of Algorithms, Deep Learning, Software Systems Laboratory, Artificial Intelligence, Discrete Structures

PROJECTS

AI Playwright

[Link to Project](#)

Developed an AI model to generate poetry by training a language model on a comprehensive corpus of literature. The project leverages deep learning techniques and natural language processing (NLP) to replicate an author's style, rhythm, vocabulary, and thematic elements. Keywords: LLM, NLP, deep learning, TensorFlow, PyTorch.

PARSEC Website: Technical Fest of IITDh

[Link to Project](#)

Collaboratively developed a responsive website for PARSEC 4.0, the annual technical fest at IIT Dharwad. Integrated 3D animations and interactive components using modern web technologies. Keywords: ReactJS, ExpressJS, CSS3, HTML5, JavaScript.

Resource Profiling in Next Generation Radio Access Networks [RANs]

Analyzed the RAN component of cellular networks with focus on CPU utilization, LLC ways allocation, and memory bandwidth across diverse workloads. Published findings in **IEEE ANTS CONFERENCE 2024**. Emphasized data analysis, performance tuning, and research methodology. Keywords: 5G, vRAN, profiling, IEEE, research.

EDUCATION

2022 – Present	B.Tech (CSE) at IIT Dharwad	(CPI: 9.07/10)
2022	Class 12th, Maharashtra Board (Top 1%)	(89%)
2020	Class 10th, CBSE Board	(95%)

POSITION OF RESPONSIBILITY

Junior General Secretary Academic Affairs 2022–2024

Elected as Academic Affairs Secretary to improve communication between students, faculty, and administration. Focused on leadership, coordination, and policy implementation.