

Sangam

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EDUCATION

Indian Institute of Technology Palakkad

B.Tech in Computer Science and Engineering

Palakkad, KL

Nov 2022 – Present

RPS Public School

Science Stream (Grade 12)

Kosli, HR

Aug. 2020 – March 2022

CAREER OBJECTIVE

A passion for technology and its application in creating innovative, efficient, and automated solutions. I aim to contribute to impactful projects, gain valuable industry experience, and continuously grow as a professional. By applying my knowledge of programming languages, algorithms, and software development methodologies, I seek to develop scalable solutions and leverage my analytical mindset and problem-solving skills to streamline processes. I aspire to make a meaningful impact in the field of computer science while collaborating with a dynamic team and advancing my career.

EXPERIENCE

ESSENCE Department

Summer Internship

May 2025 - Jul 2025

Dr. Deepak Jaiswal

- Built an AI-powered species data extractor for Periyar Tiger Reserve using Gemini 2.0 and OCR to convert scientific PDFs into structured biodiversity datasets.
- Implemented scalable processing: multi-page PDF parsing, deduplication/merging, IUCN status normalization, Western Ghats endemism detection, and multi-author attribution.
- Delivered a production-ready Streamlit tool with CSV/Excel exports, caching, retry/backoff, secure API key handling, and configurable performance/accuracy settings.

PROJECTS

News Aggregator (Enhanced with AI) | *Python, Streamlit, LLM (BERT & DistilBERT)* Jan 2024 – May 2024

- Developed a news aggregator for centralized access to diverse news sources.
- Implemented advanced summarization using BART and DistilBERT models.
- Utilized Streamlit for an interactive and user-friendly web application.
- Enhanced media literacy by curating credible news content for users.

Smart Technical Paper Review System using AI | *Python, HTML, JS, AI, NLP* Aug 2024 – Dec 2024

- Developed a Smart Technical Paper Review System using advanced AI techniques.
- Implemented conceptual similarity detection beyond traditional plagiarism methods.
- Utilized graph theory to analyze relationships between technical terms.
- Enhanced originality assessment in academic peer reviews through AI analysis.

SimplyTech -- Natural Assistant | *Python, Node.js, React Native, LLMs* Jan 2025 – May 2025

- Developed an AI-powered assistant enabling non-tech-savvy users to perform multi-step digital tasks (e.g., reminders, bookings, messaging) through natural speech/text.
- Implemented LLM function calling with Directed Acyclic Graph (DAG) workflows, allowing accurate parallel execution of tasks such as scheduling, search, and sharing.
- Designed cross-platform prototype using React Native, Python, and Node.js, with planned offline mode via quantized lightweight models.

Measurecraft (Smart Way to Measure Dimensions) | *Python, OpenCV, PYQT5* Feb 2023 – Jun 2023

- Developed MeasureCraft for measuring object dimensions using OpenCV.
- Implemented object detection and rectangle approximation for accurate measurements.
- Utilized Aruco markers for precise pixel-to-centimeter conversion.
- Aimed to enhance measurement accuracy through future camera calibration techniques.

ACHIEVEMENTS & POSITION OF RESPONSIBILITIES

National Defence Academy (NDA)

Successfully cleared NDA 2022

Phase 1 / 2

NSS Volunteer

IIT Palakkad

Palakkad, KL

Inter IIT Sports Meet (56th Edition)

IIT Bombay

Mumbai, MH

Inter IIT Cultural Meet 6.0

IIT Kharagpur

Kharagpur, WB

TECHNICAL SKILLS

Languages: Python, C++, C, Go, JavaScript, HTML/CSS

Frameworks: Streamlit, OpenCV, PyQTS, HuggingFace, Transformers

Developer Tools: Git, VS Code, Arduino

Machine Learning: LLM, Transformers, Sk-Learn

COURSES AND CERTIFICATION

Data Structures and Algorithm: Linked Lists, Trees, Graphs, DP, Tries, Hash Maps, Greedy,etc

Machine Learning: Regression, Classification, Clustering, Reinforcement Learning, etc

Artificial Intelligence: Search, Adversarial Search, Probabilistic Reasoning, etc