GKH Mohith

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Experience

SRMAP University   **Amaravati**
Summer Intern   *September 2024*
- Engineered a novel hybrid algorithm combining Artificial Bee Colony (ABC) and Particle Swarm Optimization (PSO) to solve the NP-hard task scheduling problem in cloud Virtual Machines (VMs).
- Optimized cloud resource utilization and load balancing by leveraging the integrated local search (ABC) and global search (PSO) capabilities, successfully mitigating VM underload and overload scenarios.
- Simulated performance across dynamic workloads of 100 to 700 tasks using Google Colab, achieving a peak Resource Utilization (QoS) score of 0.76 and consistently outperforming conventional ABC and PSO algorithms.

Projects

NodeLink | *Peer-to-Peer File Transfer Application* ○ *Link*

Tech Stack: *Cpp, CMake, Bencoding, Parsing, BitTorrent, TCP sockets*
- Engineered a functional BitTorrent client capable of parsing .torrent metadata and coordinating distributed downloads via TCP sockets.
- Troubleshoot and resolved critical runtime errors in a legacy C++ codebase, including file path resolution bugs and memory access violations during peer connections.
- Executed reverse-engineering techniques to map data flow from raw socket bytes to disk I/O, ensuring successful reassembly of ISO files (Debian/Linux).

Doctment App | *Doctor Appointment Application* ○ *Link*

Tech Stack: *Azure Functions, Azure SQL DB, NodeJS, ReactJS*
- Developed a full-stack web application for patients to book, manage and track doctor appointments.
- Built-in secure authentication (JWT) and integrated real-time appointment status updates.
- Optimized backend APIs with Express.js, reducing response latency by 25%.

EduNoww-App | *LMS Platform* 🌐 *Link* ○ *Link*

Tech Stack: *NodeJS, ReactJS, MongoDB, TailwindCSS, Redux,*
- Developed a full-stack LMS using MERN, featuring secure Role-Based Access Control (RBAC) and enhanced AI chatbot using OpenAI API to automate student queries regarding course curricula and payment processing.
- Implemented Redux Toolkit for complex, high-frequency domain data, eliminating unnecessary re-renders in data-intensive dashboards.
- Reduced initial page load time by 20% by implementing advanced frontend optimizations including code-splitting.

Skills

Languages: C++, JavaScript, C
Tech Stack: React, Next.js, Node.js, Express, MongoDB, SQL, Tailwind CSS, Git

Achievements

Paper titled "Maximizing Resource Utilization Using Hybrid Cloud-Based Task Allocation Algorithm" accepted at ESPTA'24, IEEE MASS Conference 2024, Seoul, South Korea. 🌐 Link

Education

SRMAP University
Bachelor's Degree, GPA: 8.39/10.0   *2021–2025*

BIEAP
Class 12th, 94.2%   *2019–2021*

BSEAP
Class 10th, GPA: 10.0/10.0   *2018–2019*