LAHORI RAMESH NAIK | 20EC39050

ELECTRONICS & ELECTRICAL COMMUNICATION ENGG. VISION AND INTELLIGENT SYSTEMS

EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2025	B.TECH + M.TECH Dual Degree 5Y	IIT Kharagpur	8.26 / 10
2020	Higher Secondary Certificate (XII)	SASI Junior College, Vellivennu, A. P	9.94 / 10
2018	Secondary School Certificate (X)	SASI Educational School, Nidadavole, A. P	9.80 / 10

COURSEWORK INFORMATION

Core: Digital Image Processing | Pattern Recognition & Machine Learning | Deep Learning | Control Systems | Network Theory | VLSI
Programming/Mathematics: Design and Analysis of Algorithms | Data Structures | Digital Computer Organization and Architecture
Advanced Operating System Design | Computer Communication and Networking | Linear Algebra | Probability and Statistics | Calculus

WORK EXPERIENCES

Backend Developer Internship | MacroCosmos Creations [Feb'24 - July'24]
- Spearheaded the development of a cutting-edge CarbonToken cryptocurrency marketplace, dedicated to combating environmental sustainability
- Demonstrated proficiency in **Node.js** and **Express.js**, leveraging expertise in **SQL**, **MongoDB** & **RESTful APIs** to drive backend system performance
- Implemented user authentication and authorization mechanisms using Sequelize for data management, including user creation and login functionalities, supported by **JWT** (JSON Web Token) **authentication** for secure user sessions with **Access and Refresh Tokens** using moment.js
- Implemented data **encryption** & **decryption** using the **AES-CBC algorithm**, and conducted unit testing using **jest** and supertest for backend routes
- Utilized **Git** for version control, implemented advanced rate limiting for API endpoints and logging using the Winston library

Bachelor Thesis Research Project | IIT Kharagpur | Prof. Sudipta Mukhopadhyay [Aug'23 – April'24]
- Implemented SCOUTER(Slot Attention-based Classifier for Explainable Image Recognition), overcoming black-box model risks especially in medical image classification. Introduced **Explainable artificial intelligence** (XAI) for transparent decision-making with **visual heatmaps**.
- Led coding efforts to apply an **object-centric approach** within the **Slot Attention module** , integrating it into pre-trained convolutional neural network architectures(**ResNet**) for feature extraction. Improved image classification accuracy with error of **0.9%** on MNIST dataset.
- Trained the model on a **T4 GPU** with **CUDA** support, using **MNIST** hand written digit dataset (60k train + 10k test samples). Achieved an accuracy of **99.2%**.Additionally, trained the model on Kaggle's **Brain Tumour** dataset(four classes), achieving validation accuracy of **83.7%**.
- Implemented checkpoints and conducted hyperparameter tuning , reducing training time with customised **cross-entropy** and area losses.

PROJECTS

Blood Bank Application [Feb'24 - April'24]
- Optimized the **MERN** stack to develop a secure Blood Bank application, resulting in enhanced performance and responsiveness.
- Implemented **role-based access control** (RBAC) to ensure secure data management across data admin, hospital, and organization roles.
- Implemented secure login by applying **token authentication** through **JSON Web Tokens** (JWT) and **bcryptjs** to securely hash passwords, used **Postman** for testing and debugging API endpoints and used **Mongoose** for data modeling and interactions with **MongoDB**.
- Enhanced the analytics dashboard with **Redux** for **state management** and utilized index mapping options for dynamic components.
- Implemented admin panel routes, integrated **authentication middleware** with error handling, and managed **deployment and hosting**.

React Portfolio Website | *Repo* **|** *Host* [Feb'23 - Mar'23]
- Designed and developed a responsive personal portfolio website using **create-react-app**, a powerful **npm** (Node Package Manager)
- Implemented a user interface with finely tuned **react components** and effectively managed state using **useState & useEffect hooks**
- Utilized **JSON data** to manage and present **dynamic content**, enabling effortless updates, integrate with backend systems and APIs
- Effectively managed **Git for version control**, releasing subsequent versions with minor updates and **deploying** them on **GitHub Pages**

Weather Displaying Application | *Repo* **|** *Host* [Oct'22 - Nov'22]
- Developed a real-time weather displaying application using **HTML, CSS, Java Script** and **Open Weather API**
- Utilized the Geolocation API to enable users to fetch weather data based on their current location enhancing user experience
- Demonstrated proficiency in handling geospatial data by effectively extracting latitude and longitude values from the JSON response
- Showcased strong problem-solving skills by effectively handling asynchronous operations, ensuring accurate updates to the user interface

SKILLS AND EXPERTISE

Programming Languages: C | C++(advanced) | Python (intermediate) | Java Script (intermediate)
Programming Skills: Data Structures and Algorithms | Object Oriented Programming | HTML | CSS | Bootstrap | MySQL
Libraries/ Frameworks/ Tools: STL | ReactJS | MongoDB | ExpressJS | NodeJS | Git | VScode

AWARDS AND ACHIEVEMENTS

- Attained 54 rank (top 1%) on Geeks for Geeks contest •Attained peak global ranking of 116, placing in the top 0.54% in CodeChef contest
- Achieved Dr. APJ Abdul Kalam Pratibha Award issued by Andhra Pradesh state government (0.67% among 6 lakh students)
- Secured state rank 271 (top 0.14%) in AP EAMCET (Engineering Agricultural and Medical Common Entrance Test)

EXTRA CURRICULAR ACTIVITIES

- Participated in Accenture Virtual Experience Developer program with Forage, engaging in tasks encompassing Architecture, Testing & AI.
- Active member at National Sports Organization Health & Fitness, served as a member of the Mess Monitoring Committee at IIT Kharagpur

lahorirameshnaik@gmail.com.   LINKEDIN   GITHUB   (+91) 8639733523