C.MURALI MADHAV

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SUMMARY

I love using my skills to build things that actually make a difference in people's lives. My goal is to keep exploring, innovating, and contributing to STEM in a way that helps society move forward.

EDUCATION

Bachelor of Technology in Computer Science & Artificial Intelligence Expected Graduation: May 2027
Newton School Of Technology, Rishihood University **CGPA:3.81**

Relevant Coursework: Data Structures and Algorithms, Software Engineering, Operating Systems, Object-Oriented Programming, Database Management, Machine Learning, Applied Linear Algebra, Probability and Statistics ,Cybersecurity, Computer Architecture, Artificial Intelligence & Machine Learning, Data Mining, Computer Networks.

ACHIEVEMENTS

- **Competitive Achievements**
  - **University Topper:** Secured highest academic standing for B. Tech (CS&AI) as of Second Year.
  - **HackMIT 2025:** - Achieved 17th place globally in the HackMIT Puzzle Solver Contest 2025 and runner-up in the Voloridge sponsorship challenge.
  - **Zuvees:** Secured Pre-Placement Offer through exceptional project impact and first of its kind Delivery slot Management System.
  - **IEEEXtreme 18.0 (2024)**: Improved to a global rank of **775** and All-India rank of 224 in IEEE Hackathon.
  - **Meta Hacker Cup**: Secured rank 4553 in Meta Hacker Cup 2024.
  - **IEEEXtreme 17.0 (2023)**: Achieved a global rank of **1305** and All-India rank of 446 in IEEE Hackathon.
- **Achieved Second** in the **State Level Public Speaking Contest** organized by the daily newspaper **The Hindu.**
- **Berkeley Global Access (BGA) Program:** Selected for Spring 2026 and Fall 2026 semesters at UC Berkeley, advancing AI and CS studies at a world-leading institution.

EXPERIENCE

Transient AI Inc - New York, USA
Software Development Engineer – Intern (June 2025 –Present) | **New York, USA & Remote India**

- Developed a LSTM-based deep learning model for stock price prediction during internal Hackathon Challenge, integrating real-time data APIs for enhanced accuracy in time-series forecasting; awarded 'Best Project' for its application in hedge fund risk analysis and revenue optimization.
- Collaborated on real-time insights dashboards for portfolio risk identification and market research, incorporating sentiment analysis and semantic search to support proactive strategies in investment banking and hedge funds.

Zuvees – United Arab Emirates (UAE)
Software Development Engineer – Intern (January 2025 – June 2025) | **Dubai, UAE & Bengaluru, INDIA**

- Developed and optimized Warehouse Management System (WMS) and Order Management System (OMS) with MERN stack and AI automation, boosting Contribution Margin 1 by 60% and conversion rates from 45% to 140%.
- Designed scalable business process workflows for delivery, inventory, and order systems, integrating Shopify APIs, dynamic pricing via price slabs, and real-time slot management, enhancing operational efficiency and customer experience.
- Architected AWS infrastructure (S3, RDS, EC2) and CI/CD pipelines with GitHub Actions and Docker, ensuring high availability and scalability for the Zuvees e-commerce platform.

Zota Health Care Ltd
Front-End Developer-Intern (June 2024 – August 2024) | **Remote**

- Enhanced **inventory management**, improving stock tracking accuracy by **25%** and reducing overstocking by **20%**.
- Implemented **real-time sales tracking**, enabling faster decision-making and better sales analysis.

PROJECTS

Watt-IF – Electricity Data Mining and Grid Resilience Research ([GitHub](#))

- **C**onducted large-scale **electricity consumption and generation mining** using **XGBoost, TFT, and deep learning models**, achieving improved demand forecasting through advanced feature engineering.
- Modeled the U.S. power grid as a **weighted directed graph** and applied **max-flow min-cut analysis** to identify critical transmission bottlenecks and simulate cascading failure scenarios for Efficient Resource Allocation.

Distributed Log Analyzer using Parallel Computing (Hack MIT 2025)

- Implemented a distributed system using MPI (Message Passing Interface) in C++ to parallelize log file parsing and anomaly detection across multiple nodes, reducing analysis time by 70% for large-scale server logs.
- Integrated parallel reduction techniques for aggregating metrics like error rates and response times, enabling real-time monitoring and scalable debugging in cloud environments.

Monte Carlo Simulation for Stock Portfolio (GitHub)

- Developed a **Monte Carlo simulation** to estimate stock portfolio values, modeling returns with **Cholesky decomposition**.
- Simulated **100 portfolio projections** over **100 days** to assess risk and future performance.

Optiforge Neural Options Pricing (GitHub)

- Developed a neural option pricing system integrating LSTM models with GARCH Volatility, benchmarked against Black-Scholes, enabling quantitative comparison between ML based and Analytical pricing.
- Built an Interactive Dashboard with heatmaps, sensitivity analysis (price vs spot, volatility) and Multiple Models Trains with different features to visualize pricing behavior and model errors across market conditions

Image to Audio (Assistive Tech for Visually Impaired) (GitHub)

- Built an **AI-powered Flask app** that generates audio descriptions from images using **Salesforce's BLIP image captioning model**.
- Converts uploaded images to speech using a **text-to-speech engine**, making it a potential assistive tool for visually impaired users.

COURSES AND CERTIFICATIONS

Online Courses:

- **Introduction to Discrete Mathematics for Computer Science**
  University of California, San Diego (Coursera)
- **Exploratory Data Analysis for Machine Learning**
  International Business Machines Corporation (IBM)
- **Supervised Machine Learning: Regression & Classification**
  International Business Machines Corporation (IBM)
- **Unsupervised Machine Learning, Deep Learning and Reinforcement Learning**
  International Business Machines Corporation (IBM)
- **Mathematics for Machine Learning**
  Imperial College London
- **Financial Markets**
  Yale
- **Math's for AI**
  Coursera
- **Pricing Options with Mathematical Models**
  Caltech
- **Connect and Protect: Networks and Network Security**
  Google
- **Foundations of Cybersecurity, Ethical Hacking, Networks and Network Security**
  Google
- **Introduction to Statistics**
  Standford University

Workshops and Summer Schools:

- **CeNSE Summer School on Semiconductor Technology and Microfabrication**
  Centre for Nano Science and Engineering, Indian Institute of Science, Bengaluru

TECHNICAL SKILLS

- **Programming Languages:** C++, Java, Python, HTML5/CSS, JavaScript,
- **Web Technologies:** Next.js, Amazon Web Services (AWS), MERN, NPM, Webpack
- **Machine Learning Technologies:** NumPy, TensorFlow, Pandas, Matplotlib, Flask
- **Tools/Databases:** Jira, Git, MySQL, PostgreSQL, MongoDB

LEADERSHIP AND INVOLVEMENT

- Lead | ICPC Club
- Team Lead | Community Development
- Cofounder & Volunteer | More Than Me
- Member | IEEE
- Associate | Cultural and Technical Festival