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PROJECTS

- **Implementation of Text-to-Image Model RPG (Ongoing Project)**
 - RPG: Recaptioning, Planning and Generation
 - Combination of LLM and Diffusion Model.
 - Currently working on Model Compression to make it more accessible.
- **A Linux Text Editor with File Encryption** [\[Link\]](#)
 - Gained insights into how a basic text editor works.
 - Worked on making the text editor secure.
 - Structured code for better maintainability.
- **Worked on the Processor Simulator for ToyRISC ISA** [\[Link\]](#)
 - Implemented the ToyRISC Assembler, Discrete Event Simulator and Caches in Simulated Memory System
 - Implemented the simulation of Single Cycle Processor and Pipelined Processor
 - Used Java and Object-Oriented Programming (OOP) principles to enhance code flexibility and maintainability.
- **Fast Fourier Transform and Its Applications** [\[Link\]](#)
 - Implemented DFT and FFT
 - Gained experience in analyzing and transforming signals using Fourier techniques
 - Applied Fast Fourier Transform for Image Compression and Audio Filtering
- **Strategic Five** [\[Link\]](#)
 - Tools & technologies used: Pygame, Python
 - Algorithms used: Monte Carlo Tree Search, Minimax with alpha-beta pruning
 - Used MCTS to make informed decisions in complex, uncertain environments, applicable beyond gaming.
 - Structured the code for better maintainability and readability.
- **CardioBeats.AI** [\[Link\]](#)
 - Algorithm used: Polynomial Regression
 - Gained insights into healthcare data and how to apply machine learning techniques in the medical field.
- **KnowledgeNest** [\[Link\]](#)
 - Tools & technologies used: Nextjs, MongoDB
 - Developed a user-focused platform that connects learners with experts offering structured roadmaps and guides for mastering specific subjects and skills.

EDUCATION

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| • Indian Institute of Technology, Dharwad | 2022-2026 |
| B.Tech in Mathematics and Computing | CPI: 8.71 |

SKILLS

Technical Skills: C/C++ | Java | Python | GitHub | Docker | Kubernetes | PyTorch | JavaScript | React.js | Bash | Scripting | Linux | Node.js
Soft Skills: Communication | Time Management | Teamwork | Creativity | Problem-Solving | Critical Thinking
Relevant Coursework: Computer Architecture | Operating Systems | Computer Networks | Data Analysis | Mathematics for Data Science | Stochastic Models