Aman Pushkar

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PROJECTS

- **Peer-to-Peer VoIP Platform**   [Link]
  - Built a peer-to-peer VoIP app using Python sockets and UDP for real-time audio.
  - Implemented peer discovery, registration, and multithreaded call handling.
  - Gained experience in socket programming and decentralized networking.

- **Implementation of Text-to-Image Model RPG**   [Link]
  - RPG: Recaptioning, Planning and Generation through LLM
  - Combination of LLM and Diffusion Model.
  - Contributed to its use-case in Medical Field.

- **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

- **Indian Institute of Technology, Dharwad**   *2022-2026*
  B.Tech in Mathematics and Computing   CPI: 8.79

- **Delhi Public School Eldeco, Lucknow**   *2021*
  CBSE (Class - 12)   Percentage: 96.2

- **St. Peter's School Ambedkarnagar**   *2019*
  ICSE (Class - 10)   Percentage: 92.8

SKILLS

Technical Skills: C/C++ | Java | Python | GitHub | Docker | Kubernetes | PyTorch | JavaScript | React.js | Bash | Scripting | Linux | Node.js | NS3

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