

## PERSONAL PROJECTS

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### •Chess Matchmaking App

**Tech Stack:** React, Node.js, TypeScript, WebSockets, Redis, PostgreSQL

- Engineered a **real-time chess platform** with **100+ active users** and integrated an **ELO rating system**.
- Architected **WebSocket servers** for **50ms latency** live updates and OAuth login.
- Optimized **Redis caching**, handling **1,000+ move queries/sec**, improving real-time performance by **40%**.
- Implemented an **AI-powered opponent** with different difficulty levels using the **Minimax Algorithm with alpha-beta pruning**.
- Designed an **intuitive UI** with **real-time move validation**, timers, and replay analysis.

### •Data Interpretation for Neoplastic Diseases

**Tech Stack:** Python, SQL, Pandas, Tableau, scikit-learn

- Analyzed **500,000+ patient records** to identify **disease trends** and **risk factors**.
- Applied **machine learning**, boosting **neoplasm classification accuracy** to **85%**.
- Created **interactive Tableau dashboards**, reducing data processing time by **60%**.
- Automated **data collection** and **cleaning processes** using Python scripts, increasing efficiency by **30%**.
- Built a **predictive model** for **early diagnosis**, reducing **false negatives** by **25%**.

### •AI-Driven Rubik's Cube Simulator

**Tech Stack:** React, TensorFlow.js, AI-generated code

- Coded an **AI-driven simulator** solving cubes in under **3 seconds**, leveraging **reinforcement learning**.
- Implemented **computer vision** with **95% accuracy** for real-time **cube state recognition**.
- Created a **3D UI with gestures**, improving **accessibility** and engagement.
- Enhanced performance by integrating **GPU acceleration**, reducing processing time by **50%**.
- Integrated a **step-by-step solving assistant** for beginners using the **CFOP method**.

## TECHNICAL SKILLS

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**Programming Languages:** Python, SQL

**Data Visualization:** Tableau, Power BI

**Technologies:** Excel, VS Code, React.js, Node.js

**Development Concepts:** Git, GitHub, Linux

## ACHIEVEMENTS LEADERSHIP ROLES

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**Graphic Designer, CrazyVITians Graphic Team (December 2021)**

o Designed 50+ graphics, increasing event engagement by 40%.

o Led a 5-member team to create high-impact visuals.

**Finalist, GFG Jobathon CODHERS2025** (Top 5% of 1,000+ participants).

**Delegate, Model United Nations (MUN)** - Developed analytical & debating skills.

## CERTIFICATES

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- The Bits and Bytes of Computer Networking | Issued: February 2023
- NPTEL: Cloud Computing | Issued: January 2024