

Pavankumar Gali

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Education

University of Houston

BS Honors Computer Science | Minor Finance & Math

Graduation: May 2027

GPA: 3.920, Major GPA: 4.0

Experience

Software Engineering Internship, Infoshare Systems

June 2025 – Aug 2025

- Developed a web-based inventory management system using ASP.NET MVC and SQL Server for 1,500+ SKUs
- Implemented full CRUD functionality and a responsive UI using Bootstrap boosting efficiency by 50%
- Tailored the backend model & handled integration with a relational database for tracking inventory at 5+ sites

Undergraduate Research, University of Houston

March 2025 – Present

- Began analysis of 5+ peer-reviewed papers focused on ray tracing and rendering
- Collaborating with Dr. Gouning Chen & Lei Si on research, contributing 10+ hours/week to algorithm analysis
- Connected with 2+ active researchers to explore applications ray tracing in computational geometry & modeling

Research Chair, IEEE-NSM | University of Houston

Feb 2025 – Present

- Organizing research colloquiums with 6+ graduate/PhD students, founding a research sector, bringing students
- Planning undergraduate research opportunities by matching 20+ students with professors based on their needs
- Preparing to mentor students in 5+ core research skills, from literature reviews to publication practices

Computer Science Tutor, CougarCS | University of Houston

Feb 2025 – Present

- Tutoring 30+ students in Computer Architecture and Data Structures, improving test scores by 15% on average
- Created 10+ visual aids and code templates for challenging concepts (e.g., cache mapping, graph traversals, ARM assembly pipelining)
- Earned Top 10 tutor designation by completing 15+ hours in first 8 weeks, ranking among most active tutors

Projects

HackMisso Hackathon Goob Fitness App | JavaScript, Node.js, Express, MongoDB github.com/Douqt/GoobFit

- Used Express.js & MongoDB to create user authentication, 200+ posts, 500+ comments with JWT and bcrypt
- Implemented MongoDB integration, optimizing queries to reduce average data retrieval time by 40%

Chess AI | C#, .NET, Unity

github.com/Douqt/Chess-AI

- Developed competitive chess AI rated 1600 ELO on Lichess, outperforming 65% of human players
- Engineered a competitive Chess AI implementing advanced algorithms (alpha-beta pruning, mini-max, Zobrist hashing, move ordering, iterative deepening) achieving 12-ply search depth
- Optimized performance using bitboard representations and transposition tables, improving move calculation time by 100x (2000ms → 20ms)

B.O.B. (Battle of Businesses) | C#, .NET, Unity

github.com/Douqt/BOB

- Earned 5th place among 50+ Texas teams, qualifying FBLA Nationals with my business simulation game
- Designed complete Unity / C# systems including a branching narrative engine (25+ decision paths), intricate demonstration of stock market mechanics, and competitive standard user interface

DAAS MCC (Minecraft Server) | Minecraft, Java, Git

- Managed a 25-person team across building, art, coding, and social media to run a popular Minecraft server
- Led a 5-person development team to design engaging game experiences and optimize performance
- Organized weekly tournaments for 200+ active players, fostering a strong community

Skills

- **Languages:** C#, C++, Java, JavaScript, TypeScript, HTML & CSS, R
- **Tools/Frameworks:** .NET, Git, Unity, React, Node.js, Express, MongoDB