RAUL HERNANDEZ

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EDUCATION

University of Texas - Dallas   **August 2022 - December 2025**
Bachelor's, Computer Science   *GPA: 3.2*
- Advanced Algorithms and Algorithmic Analysis, Data Structures and Algorithms, Programming Language Paradigms
- Database Systems, Automata Theory, Computer Architecture
- Software Engineering, Systems Programming in Unix/Linux, Linear Algebra

EXPERIENCE

LearnFlowGPT   **Richardson, TX, USA**
Software Engineer   *December 2023 - Present*
- Developed and deployed LearnFlow, a Next.js and TypeScript-driven web app, to address learning inefficiencies by curating scientifically-proven learning strategies and study aids for students
- Tasked with integrating Firebase Auth for user authentication, refining UI for improved user engagement, optimizing database schema for swift data retrieval, and utilizing FFmpeg for efficient video processing and management
- Implemented Express.js API endpoints for users to upload class information via PDF, generating GPT-4 based LLM assistants with learning strategies to enhance study efficiency
- Successfully enhanced study efficiency for over 1200 students around the world, reducing weekly study time by 20% while maintaining or improving GPAs, attracting attention from OpenAI's product operations team

RESEARCH AND PROJECTS

ACM Research   **Richardson, TX, USA**
Solana Blockchain Researcher   *August 2023 - December 2023*
- Researched the challenge of high gas costs on the Solana blockchain, which hindered the adoption of decentralized Web3 applications
- Tasked with optimizing a social media dApp created in Rust to ensure cost-effective smart contracts, while providing mentorship to more junior developers
- Implemented an overhaul of the dApp's smart contracts and transitioned to a serverless architecture, resulting in a 30% improvement in transaction efficiency and a proportional reduction in gas costs
- Presented the research findings and strategic methodologies of the smart contract optimizations to a panel of academic and industry leaders, leading to a discussion on the viability and scalability of blockchain development

Study Time Balancer
React, SQL, phpMyAdmin - Frontend
- Developed an intuitive tally mark system in React to visually track study time per subject, with data persistently stored and managed via a SQL database
- Integrated a recommendation engine into the app, analyzing past study patterns to advise on subject focus, promoting equitable study time distribution across topics which resulted in a 15% increase in GPA

Workout Planner and Tracker
PostgreSQL, Express, React, Node.js - Backend
- Designed and executed a full-stack web application offering customized workout plans and progress tracking to meet the diverse needs of fitness enthusiasts
- Enhanced application scalability and maintainability by applying RESTful API principles in Node.js for efficient data transactions and server-client interactions, leading to a notable 60% increase in user adherence to workout programs, compared to a baseline adherence rate of 30%

SKILLS

Programming Languages: Java, Python, C++, JavaScript, TypeScript, PowerShell, SQL
Libraries and Frameworks: React, Node.js, Next.js, Express, Tailwind CSS, Pandas, NumPy, PyTorch
Platforms: Git, MongoDB, Firebase, MySQL, Docker, Linux/Unix, AWS
Interests: Deep Learning, Data Science, Machine Learning