Abdelrahman Youssef

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Education

University of Rochester   **Rochester**, NY
Bachelor of Science, Computer Science.   *Graduation Date: Dec 2023*
Relevant Coursework: Artificial Intelligence, Web Programming, Calculus, Database Management, Android Development, Design & Analysis of Efficient Algorithms, Computer Organization, Computation & Formal Systems.

Experience

University of Rochester   Rochester, NY
Lead Full-Stack Developer   *Aug 2022 – Present*

- Led and mentored a five-member team in enhancing the LASSO, a MERN-stack application, conducting comprehensive code reviews and establishing standardized documentation, resolving technical challenges to ensure streamlined onboarding and sustained application quality.
- Optimized the application's performance drastically, reducing load times by 78% and redesigning the user interface, resulting in a 37% improvement in user satisfaction by focusing on user-centric design and efficiency.
- Engineered and delivered an innovative online reservation system with advanced authorization, securing an 85% user adoption rate and improving overall business operations and customer engagement.

University of Rochester   Rochester, NY
Workshop Leader   *Jan 2021 – May 2022*

- Introduced extended learning sessions on advanced topics, which directly resulted in an 18% increase in course retention rates, by enhancing student engagement and providing additional learning opportunities.
- Provided personalized mentoring and tailored tutoring in Data Structures, Algorithm Analysis, and Java, addressing individual learning needs and styles, leading to enhanced academic performance and mastery of subjects for students.

Project Experience

GPT-SYNC AVATAR   *github.com/3bdrahman/GPT-Sync-Avatar | Jun 2023 – Aug 2023*

- Integrated OpenAI's Whisper and ChatGPT APIs to create an intelligent response system, transcribing voice messages and generating intelligent text responses, enhancing user interaction through natural and responsive communication.
- Converted generated text into natural-sounding speech using Microsoft Speech SDK, optimizing user experience through intuitive and coherent voice responses.
- Engineered a real-time transmission system using Socket.IO for seamless audio and viseme data transfer between front and back ends, ensuring synchronized and fluid data flow.
- Devised an intricate real-time lip-sync animation system using morph targets and audio cues, achieving expressive and natural mouth movements to enhance visual realism and user engagement.

SELF-DRIVING MODEL   *github.com/3bdrahman/Self-driving-car | May 2022 – Jul 2022*

- Employed segment intersection techniques and added dummy cars in a 2D canvas environment, enhancing collision detection and simulating authentic traffic conditions for improved realism and functionality.
- Architected and optimized a layered feed-forward neural network, integrating an autopilot control feature and enabling parallelized assessments of over 1,000 car instances, refining outcomes and enhancing system efficiency.
- Developed a specialized visualizer class on a bespoke 2D canvas, vividly illustrating intricate neural network operations, including inputs, outputs, weights, and biases, offering enhanced user understanding and interaction through detailed representations.

Skills & Interests

Languages & Frameworks: Java, JavaScript, Python, React, Node.js, Express.js, MongoDB, Next.js, TypeScript, HTML, CSS, Tailwind CSS, Material UI, Bootstrap, C, C#, Kotlin.
DevOps and Systems: Git Version Control, Cloud Computing: Azure, Red Hat Linux Server Administration.
Project Management: Agile Software Development, Scrum (Jira), Cross-functional Collaboration, Sprint-planning.