Amirita Manickandan

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Education

Georgia Institute of Technology Aug 2022 – Dec 2024
Bachelor of Science in Computer Science *Atlanta, GA*
GPA: 3.91; Dean's List 2022-2023, 2023-2024
Relevant Coursework: Data Structures and Algorithms, Computer Organization, Artificial Intelligence, Machine Learning, Deep Learning, Design and Analysis of Algorithms, Human-Computer Interaction, Mixing and Mastering

Experience

Software Engineering Intern May 2024 – July 2024
Landis + Gyr *Alpharetta, GA*
- Optimized data retrieval by 50% by migrating meter parameters from JSON files to a PostgreSQL database, supporting TEPCO's deployment of over 20 million smart meters; established the database connection logic in Visual Studio using C# and object-oriented programming principles to facilitate state management and improve data handling efficiency
- Automated data migration from Oracle to PostgreSQL using a PowerShell tool, accelerating migration speed by 3x via PostgreSQL's COPY command, ensuring seamless data transfer and reducing manual workload for large simulations
- Collaborated in Agile sprints, contributing pull requests, reviewing code for team members, and improving code quality

Software Developer Intern May 2023 – Aug 2023
Institute of People and Technology *Atlanta, GA*
- Designed and developed an aircraft maintenance app for a major manufacturing client, deployed on the Magic Leap 2 augmented reality headset, enhancing user interactions with features like hand-tracking, marker-tracking, and haptics
- Created a low-fidelity demo of the application using OpenXR, Unity3D, and C#, showcasing critical features such as HUD canvas, hole selection, finger tracking, and marker tracking, achieving a 30% increase in user interaction efficiency

Undergraduate Research Assistant Jan. 2023 – May 2024
TanDEm Lab at Georgia Institute of Technology *Atlanta, GA*
- First author of an academic paper on artificial intelligence-driven solutions to enhance mental health helpline efficacy, focusing on improving design and accessibility by analyzing structural differences among helplines around the world.
- Conducted 13 interviews with helpline administrators worldwide, revealing technical challenges and cultural factors

Projects

Medusai | *Python, OpenCV, YOLO, xArm* Aug 2024 – Present
- Developing a computer vision system using Python, OpenCV, and YOLO to track hand movements for real-time interaction with a robotic string instrument, including a feature where the robotic arm performs an animated gesture in response to string plucking, enhancing user engagement and the expressive capabilities of the instrument
- Implemented UDP communication to transmit hand movement data, adjusting pitch based on user's hand position

Virtual Dance Studio | *Typescript, CSS, React, Node.js, Bootstrap* May 2024 – Aug 2024
- Developed a web application enabling users to view dance videos from various platforms including Instagram, Tiktok, and Youtube alongside a live camera feed and organize videos through a content management system
- Integrated features such as video mirroring, speed control, and looping to accommodate different learning styles

Credit Card Fraud Detection | *Python, Jupyter Notebook, NumPy* Jan 2023 – Dec 2023
- Led a credit card fraud detection initiative, implementing Decision Tree, DNN, and SVM machine learning models
- Addressed imbalanced data challenges and optimized model precision, showcasing proficiency in advanced data preprocessing, model implementation, and fraud detection strategies, achieving accuracy rates exceeding 95%

Technical Skills

Languages: Java, Python, C, C#, JavaScript, HTML, CSS, SQL, Oracle, PostgreSQL, LaTeX, LC-3 Assembly
Libraries/Frameworks: NumPy, OpenCV, pandas, Npgsql, React, Node.js, Unity, .NET, OpenXR, TensorFlow
Developer Tools: Git/GitHub, Azure DevOps, Docker, PowerShell, Android Studio, Visual Studio, VS Code, IntelliJ, Eclipse, Jupyter Notebooks, Figma

Activities

Leadership: Music Director and Arranger for Taal Tadka Acapella, Peer Tutor for Georgia Tech Athletics Association
Involvements : Georgia Tech Web Development Club, Robotic Musicianship Lab, Georgia Tech Musician's Network