

Ria Saini

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Education

M.S. Computer Science, Machine Learning, Aug 2024 – present | Remote
Georgia Institute of Technology

B.S. Computer Science, Math Theory and Computation, Sep 2021 – Jun 2024
UC Santa Cruz

- Honors in Computer Science
- NCAA Track and Field

Experience

Software Development Researcher, Jun 2023 – Dec 2023 | Santa Cruz
Social Emotional Technology Lab, UC Santa Cruz

- Contributed to a multi-disciplinary project aimed at developing a series of educational games intended for deployment in local communities effected by wildfires.
- Utilized Unity and C# for application development, architecting game mechanics, designing an intuitive UI/UX informed by game design principles, and integrating educational components to enhance user engagement.
- Collected and analyzed user decision-making data, to develop an algorithm that personalizes gameplay experience.
- Implemented game theory principles to optimize user interactions and enhance decision-making processes
- Co-authored the paper "Participatory Design of a Serious Game to Improve Wildfire Preparedness with Community Residents and Experts," published in CHI 2024.

Software Engineer Intern, Humans in Space Jun 2022 – Aug 2022 | Remote

- Developed a scalable Django web application featuring a secure login interface for administrators and clients.
- Designed a relational database management system using PostgreSQL for efficient storage and retrieval of client data.
- Utilized Git for version control to facilitate collaboration with cross-functional teams, effectively manage code changes, and integrate individual contributions into larger application frameworks.

Software Development Intern, OneKin Aug 2021 – Dec 2021 | Remote

- Developed a cross-platform livestream shopping application for iOS and Android using React Native and JavaScript.
- Conducted beta testing to collect user feedback, iteratively refining the design and implementation to optimize user experience leading up to OneKin app launch.
- Collaborated with client retailers to design and develop customized business pages within the application, ensuring alignment with their branding and operational needs.
- Gained comprehensive experience in a startup ecosystem, performing diverse roles and contributing to various aspects of the business operations.

Projects

Hateful Meme Detection

Developed multimodal machine learning models for meme sentiment analysis by integrating visual and textual transformer and CNN architectures (BERT, Vision Transformers, VGG 19). Constructed test data sets by web scraping social media platforms to compare and analyze the performance of different model architectures.

Real Estate Profitability Guide

A dynamic and interactive tool for real estate investors that consolidates data from Zillow, World Population Review, and Kaggle to provide operation and profitability metrics by zip code.

Network Visualization

Implemented model visualizations like saliency maps, Grad-CAM, guided backpropagation, and adversarial image generation to assess performance and robustness in CNNs, along with a style transfer program for exploring model behavior and image manipulation.

CNN for Imbalanced Data Using Focal Loss

A convolutional neural network that uses class-balanced focal loss to address class imbalances in datasets to improve accuracy and performance on minority classes.

Multi Threaded HTTP Server

Designed and implemented the server architecture to efficiently handle concurrent client requests, managing thread creation and synchronization with read-write locks to optimize resource access

Skills

Python | SQL | R | Git | C | C++ | C# | Javascript | Django | Machine Learning | Power BI | Tableau | Database Management | React Native | PyTorch | Flask | TensorFlow | Hadoop | Azure | Statistical Analysis