

UTTEJ KURUMA

B.E. (Hons.), Birla Institute of Technology and Sciences, Pilani, 2019 - 2023

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TECHNICAL PROFICIENCY

Technologies	Web Design and Development, Web Scraping, Machine Learning, AI, Feature Engineering, Data Engineering, XGBoost, ARIMA, Game Design and Development
Languages	Python, C, C++, JavaScript, SQL, HTML, CSS, VEX
Packages	React, Tailwind, ThreeJS, React Three Fiber, Scss, Bootstrap, Framer Motion, React Spring, React Drei, SK-Learn, SciPy, TensorFlow, Keras
Softwares	Adobe Creative Suite, AutoCAD, Revit, Blender, Houdini, Maya, Unreal Engine

INTERNSHIP EXPERIENCE

Software Development Intern, Larsen and Toubro Infotech

Jul 2022 - Dec 2022

- Built an end-to-end VR system for interpersonal and mass communication primarily targeted towards virtual learning and classroom environments
- Used Blender for 3D asset modelling and Unreal Engine 5 to build the virtual world
- Optimized the networking to focus on multiuser interactions and targeted the rendering towards lower end hardware typically associated with students

PROJECTS

NeoFi User Interface – React, Binance Web Sockets, TailwindCSS

- Developed a real-time cryptocurrency price tracker for NeoFi start-up using React and Binance web sockets. This involved leveraging React and Binance web sockets to create a dynamic and up-to-date platform for tracking cryptocurrency prices in real-time.
- Implemented responsive design principles to enhance user experience on mobile devices. By ensuring that the website adapts seamlessly to different screen sizes and resolutions, users can easily access and navigate the cryptocurrency price tracker on their mobile devices. As a result, the bounce rate was reduced by 25%, indicating improved user engagement and satisfaction.
- Employed a responsive design approach to optimize the mobile user experience. This involved carefully considering factors such as layout, font size, and touch-friendly interactions to ensure that the cryptocurrency price tracker is easy to use and visually appealing on mobile devices. The result was an improved user experience, attracting and retaining more users on the platform.

T-Shirt Customizer – React, ThreeJS, React Three Fiber, Framer Motion, Tailwind CSS

- Developed a T-shirt customizer using React three fiber, Framer motion, React, and Tailwind CSS that allows users to upload images and customize the logo and pattern of the shirt.
- Implemented an AI model using Huggingfacejs API to generate textures for the logo or pattern based on user explanation.
- Optimized website performance by reducing load time from 10 seconds to under 3 seconds.

FALCON – React, ThreeJS, React Three Fiber, React Spring, SCSS

- Developed a cutting-edge 3D website using React Three Fiber, Drei, and React Spring to showcase various combat drone designs with open-source library models resulting in positive user feedback.
- Created an intuitive modern UI design for displaying drone features with popups.
- Implemented a hover-based card system allowing users to seamlessly orbit around the drones and view all features.

OTHER PROJECTS

Plugin Development – Python and Blender

- Developed and implemented a highly efficient plugin for web developers, reducing the time required to export 3D models by over 60%.
- Utilized advanced Python programming techniques to enable easy export of models in both GLTF and GLB formats, resulting in a 20% increase in user adoption.
- Conducted extensive testing and debugging to ensure seamless integration with Blender software.

Estimation of Future Rainfall in Climate Change Scenarios - Machine Learning, Python

- Developed accurate estimates for future rainfall patterns in specific districts using macro-historical rainfall records.
- Used official government weather records, and established a data engineering pipeline designed to extract relevant markers using netcdf4 and cfrib and bias correct the data using empirical quantile mapping
- Analyze relations between predictors and predictands, especially correlation windows and using this, developed multiple modelling techniques including XGBoost, ARIMA and Linear Regression.
- Developed as part of the course Engineering Hydrology

Bulldozer Price Prediction – Machine Learning, Python

- Achieved 90% accurate predictions using scikit-learn's Random Forest regression algorithm on bulldozer price data.
- Enhanced accuracy by 5% through advanced techniques like hyperparameter optimization and time-series forecasting.
- Successfully projected bulldozer prices for the next 2 years within an error margin of +/- 3%.

EXTRA CURRICULAR ACTIVITIES

Technical Art and 3D Modelling

Experienced in developing tools and pipelines to improve workflow efficiency and optimize performance. Currently developing skills in Houdini for technical tasks related to Procedural Generation of 3D Assets, Environments and visual effects.

Graphic Design

Proficient in Adobe Photoshop, Illustrator and Affinity suite, able to create visually appealing designs for presentations, marketing materials, and user interfaces, with a focus on typography, layout, and branding

Digital Art

Skilled in digital art tools such as Autodesk Sketchbook, Krita and Adobe Creative Suite, experienced in creating digital illustrations and montages.

LANGUAGES KNOWN

English, Telugu, Hindi, Kannada