BIRAJ SILWAL

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Experience

App Developer

School of Engineering, UNM

Apr 2020 - Present

- Developed a full stack Progressive Web Application (PWA) using React framework (Next.js) as a frontend, MongoDB as a backend. (Note: currently deployed Vue.js version, in-progress React.js version).
- Created guestionnaires and conducted user interviews to identify and analyze current user experiences and pain points.
- Used agile methodologies to continuously plan, design, and program the UI/UX and enhanced user satisfaction ratings from 60% to 95%.
- Deployed an app (success.unm.edu) to Amazon Web Services (AWS) EC2 instance.

Teaching Assistant

Department of Computer Science, UNM

Aug 2020 - Present

- Engage with students to explain concepts regarding Object-Oriented Programming System, Exception Handling, Java Collections, and JavaFX.
- Hold office hours, grade assignments, and answer student questions.

Projects

Distributed Auction, Desktop Application

May 2020

- Description: A system of multiple Auction Houses selling items, multiple Agents buying items, and a Bank to keep track of everyone's funds.
- Role: Implemented Java Socket, Synchronization, and Thread to concurrently run multiple Auction Houses to communicate with multiple Agents and a Bank, as a member of a three-person team.

Online Marketplace, Android Application

Dec 2019 - Jan 2020

- Used Java to develop an online marketplace to buy and sell items among college students.
- Implemented *Parse User* authentication and created an online chat service.
- Used *Parse Server* as a back-end and deployed an app to Heroku.

Sentiment Analysis, Machine Learning Application

May 2021

- Built a machine learning model that classifies a tweet into positive and negative sentiment using the Naïve Bayes Classification algorithm.
- Trained the ML model with 10,270 tweets resulting in **75%** test accuracy.

Image Classifier, Machine Learning Application

Oct 2019

- Collaborated with a team of two other graduate students to build a machine learning model that classifies and recognizes AprilTag image using the Convolutional Neural Network (CNN) algorithm.
- Trained the system with over 5,010 AprilTag images resulting in a 92% performance accuracy.

SimpleTweets, Android Application

Mov 2019

- Developed an android app that allows user to sign in to Twitter, post a new tweet, and view their Twitter timeline.
- Implemented "AsyncHttpClient library" to send an asynchronous request to "Twitter **REST** API" and OAuth to authenticate users.

Education

Bachelor of Computer Science University of New Mexico (UNM) GPA: 3.5 / 4.0

Graduation: May 2022

Coursework

Algorithms • Data Structures • Object-oriented Programming • Software Design • Operating System • Machine Learning • Computer & Network Security • Linear Algebra • Set Theory & Probability •

Languages

Proficient: Java • Python • Bash JavaScript

Familiar: C/C++ • GO • SQL • JSON • XML • R • MATLAB

Framework: React • Vue • Spring • Bootstrap

Skills

UI/UX • Docker • Web Application Cloud Computing • Android • Front-End • Back-End • Heroku • Scrum • sklearn • pandas • Teamwork

Technologies

Git • AWS • Debian Linux • PWA • REST • Node.js • MongoDB • GraphQL • Visual Studio • **Android Studio**

Honors & Awards

- 1st place out of 35 teams in NASA MINDS for Overall Design, Build, and Demonstration, 2021
- Finalist for the 2019-20 UNM Mobile App Contest out of 22 teams, 2020
- Finalist at FIRST Robotics Competition Central Illinois Regional - one of the 63 regional competitions around the USA, 2018