BIRAJ SILWAL

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Experience

App Developer
School of Engineering, UNM — Apr 2020 - Present

- Developed Progressive Web Application (PWA) using **React** framework (Next.js) as a frontend, **MongoDB** as a backend, and Parse Server as a BaaS (*Note: currently deployed Vue.js version, in-progress React.js version*)
- Created and conducted user interviews and questionnaires to identify and analyze current user experiences and pain points
- Used agile software engineering methods to enhance the UI/UX of an app
- Deployed an app (success.unm.edu) to Amazon Web Services (AWS) EC2 instance
- Planned, designed, and programmed the UI/UX with a **95%** user satisfaction rating

Teaching Assistant
Department of Computer Science, UNM — Aug 2020 - Present

Intermediate Programming using Java (CS251L)

- 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

IT Assistant
University of New Mexico — May 2019 - Aug 2020

- Used QUERY and other Google Sheets formulas connecting multiple sheets to manage student-related data of 60-80 students
- Designed User Interface (UI) of student profile dashboard by creating different charts in Google Sheets to track student's academic progress
- Ensured users are highly satisfied; Met and exceeded expectations

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

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 10,000 AprilTag images resulting in a **80%** performance accuracy

Online Marketplace, Android Application — Dec 2019 - Jan 2020

- Used **Java** to develop an online marketplace for students to post an item to sell or see posted item to buy directly from other 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

SimpleTweets, Android Application — Nov 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
Expected: May 2022

Coursework

Programming • Algorithms • Linear Algebra • Set Theory & Probability • Machine Learning • Computer & Network Security • Principle of Artificially Intelligent Machine • Software Design • Operating System

Languages

Proficient: Java • Python • JavaScript • HTML • CSS • Bash

Familiar: C/C++ • GO • SQL • Dart • R • JSON • XML • Matlab

Skills

Algorithms • Data Structures • OOP • UX/UI • Docker • sklearn • pandas • Web Application • Android • Front-End • Back-End • Bootstrap • Heroku •

Technologies

Git • Gitlab • AWS • Debian Linux • PWA • REST • React • Vue.js • Node.js • MongoDB • GraphQL • Terminal • Visual Studio • Android Studio

Honors & Awards

- 1st place out of 35 teams in NASA MINDS for Overall Design, Build, and Demonstration, 2021
- Accepted to UNM *El Puente* Research Fellowship out of 78 applicants, 2020
- 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