BIRAJ SILWAL

birajsilwal.ai@gmail.com | 563-271-8079 | github.com/birajsilwal | linkedin.com/in/birajsilwal | birajsilwal.com

Experience

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

- Develop a full stack web app that makes it easier for students to stay informed about support services and events serving **1,300+** engineering students with **9,000+** page views within 13 months.
- Technologies used: **React**, **MongoDB, Strapi,** JSON Web Token **(JWT).**
- Use agile methodologies to continuously plan, design, and program the UI/UX and enhanced user satisfaction ratings from **60% to 95%**.
- Create questionnaires and conduct user interviews to identify and analyze current user experiences and pain points.

Research Intern,
Purdue University — Jun 2021 - July 2021

- Implemented a higher level of autonomy in an AI teammate to understand the relationships between trust, workload, transparency, and autonomy.
- Created **Python** script to process raw survey data for statistical analysis.
- Learned PHP and used additional JS, CSS, and HTML skills to deploy an updated simulation on Amazon Mechanical Turk on a 3-week timeline.
- Carried out the research process with 4 team members in a condensed, 7-week research experience – I went from identifying a problem to experiment design/deployment and reporting results.

Fullstack Developer,
(Startup) — Feb 2021 - Aug 2021

- Developed a web application in **VueJS, Python, MongoDB, and NodeJS.**
- Led, designed, and developed front-end by creating flexible, extensible, and loosely coupled components and implemented **Flux architecture** for global state management with reactive components using Vuex.
- Created **Python** script to populate **1+ million** demo users to simulate real-world performance.
- Created stateless nodejs servers that can be easily deployed into clusters for horizontal scaling.

Projects

Chili House,
Interdisciplinary project Private repo — Nov 2020 - Present

- *Description*: Collaborated with 11 interdisciplinary team members with a goal to develop innovative techniques for growing crops in space.
- *Role*: Wrote **Python** script to simulate moisture sensors in the pot that publishes impedance values and temperature values to the Swarmie robots.

Distributed Auction,
Desktop App — 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*: Collaborated with 2 team members to implemented **Java** Socket, Synchronization, and Thread to concurrently run multiple Auction Houses to communicate with multiple Agents and a Bank.

Education

B.S. in Computer Science
Minor in Economics
University of New Mexico (**UNM**)
GPA: 3.5 / 4.0
Graduation: May 2022

Advanced Software Engineering
CodePath.org

Coursework

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

Languages

Strong: Java • Python • JavaScript
Familiar: C/C++ • Bash • JSON • SQL

Frameworks/Libraries

React • Vue • NextJs • NuxtJs • Bootstrap • MaterialUI

Skills

Object Oriented Design • Cloud Computing • Scrum • Teamwork & Collaboration • Git • AWS (EC2, Amplify, S3, Route 53, and Reddis) • MongoDB • UI/UX • Heroku • Debian Linux • Frontend • Backend

Honors & Awards

- **1st** place out of 35 teams in NASA MINDS for Overall Design, Build, and Demonstration, 2021 (related to Chili House project)
- **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