

Sanjog Thapa

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EDUCATION

The University of Alabama in Huntsville

Master in Computer Science

Huntsville, AL, USA
August 2022 - Current

EXPERIENCE

NASA GHRC DAAC, ITSC UAH

Graduate Research Assistant

Huntsville, AL, USA
August 2022 - Current

- Developed a cloud-based tool for Field Campaign Explorer to subset prime instruments data based on custom parameters using a serverless microservice architecture in AWS infrastructure (lambda, API gateway, Websocket, S3, Cloudwatch) and deployment using Terraform. (FCX Subsetting Tool)
- Developed cloud-based visualization of 2D histograms for large datasets collected during NASA GOES-R FIELD CAMPAIGN using serverless architecture in AWS infrastructure using dockerized lambdas. (FCX Histogram tool)
- Developed a cloud-based simulation visualization of big data collected during the NASA OLYMPLEX, CPEX-AW, and HS3 field campaigns over a 3D globe using CESIUM, CZML, 3D Tiles, and custom data preprocessing in Python. (3D visualization of Field Campaigns)
- Developed a lightning data visualization using NASA Lightning Data in the form of WMTS over Mapbox in a live notebook environment, used during UWG meetup. (UWG Lightning Dashboard)

Gurzu Inc.

Software Engineer (Team Lead)

Lalitpur, Nepal
January 2019 - August 2022

- Developed a web solution, as a team lead, to facilitate a social media integration into the digital signage display using ExpressJs for the backend, ReactJs for the front end, and Postgres as a database for the project. Handled publicly available content from Twitter and developed a moderation engine to filter out those contents from scratch. (Social Media Integration)
- Developed web solution In ReactJs to facilitate log analysis and threat trigger using Kibana. Also, wrote rules in Kibana to detect anomalies within the input logs. Briefly assisted to train a Machine Learning model for the pattern recognition of threat anomalies. (Gurzu Log Analysis Tool)
- Worked as frontend lead, using vanilla JS, jquery, and HTML5/CSS3 to develop a management system around spectrometry, to collect Health test sample data, and forms for the patients and hence create relationships between the users, their forms, and the test result (Spectrapass).
- Implemented a reporting system for the incessant amount of data being generated by the player by developing a queuing mechanism to hold the data for offline scenarios using core FS in Nodejs. Also, developed an inventory system in ReactJs. (Splashnode)
- Developed a desktop player for a digital signage solution, using web technologies like JS, HTML5/CSS3, and MongoDB inside the ElectronJs framework. Used AMQP as message queuing to handle large amounts of data and communication among services. Developed the desktop application to run multiple jobs for shared data using IPCs (Interprocess communication). Implemented various algorithms to build an incessant and fault-tolerant system. (Wicket)

Technorio Inc.

Internship

Kathmandu, Nepal

November 2018 - December 2018

- Learned web frontend skills like jquery and CSS.
- Assisted in building an e-commerce site (smart-doko) used in the Nepali market.

SKILLS

- Basic Proficiency: Mobile application development (React Native), Game development (Unity game engine).
- Intermediate Proficiency: Terraform, MATLAB, C, C++, Java, CSS, JQuery, Database Design, Build Tools (Webpack), Testing (Chai, Cucumber), and spreadsheets.
- Advanced Proficiency: React, CESIUM, CZML, 3Dtiles, Python, Data visualization and analysis (Matplotlib, Numpy, Pandas, Seaborn, Scipy Xarray), AWS, Serverless Architecture AWS lambda, Docker, Terraform, Javascript, Web application development (MERN, PERN stack), Desktop application development (ElectronJs), Version management using GIT, the Message broker (AMQP).