

Shiva Aryal

 Github |  LinkedIn |  Website |  Email |  +1(605)2021766

PROFESSIONAL SUMMARY

Software Engineer with 4+ years of on-field experience in wide range of software fields seeking to take the next career step with a respected organization dedicated to world-class quality. Tech enthusiast with the ability and experience of software design and programming to develop scalable solutions without compromising deadline or quality.

PROFESSIONAL EXPERIENCE

Graduate Research Assistant

Jan 2022 - present

Bioinformatics and Computational Engineering Lab, University of South Dakota

- Developed web applications ranging from its data modelling, system design, development to Dockerized automatic AWS deployment for different bio-medical requirements with reusable components that helped in reducing 80% of the repeated work in web development in the lab.
- Built an automatic pipeline for extracting biomedical research papers from 12+ sources and integrating it into Elasticsearch for building our own search engine and collected over 500k+ research papers.
- Engineered different machine learning projects including projects like bio-corrosion prediction due to biofilms, GAN and VAE based data augmentations as well as detecting microbial cells in microscopic images.
- Advised and assisted other project teams with various software stacks and mentored junior team members' tech works about code optimization, code reusability and project organization.

Mobile Developer

Feb 2021 - Jan 2022

ParallelDots, 506-520, Ocus Quantum, Sector 51, Gurugram Haryana, India

- Managed and prioritized app backlogs with input from product management, engineering and operations to ensure features' development on schedule, worked with quality assurance team closely to make continuous improvement of mobile application reducing feature timeline by about 1.5 - 2 sprints.
- Programmed and regularly optimized in-app image recognition system, blur detection and tilt detection to reduce the redundancy of sending to a backend service for image predictions optimizing the flow time by nearly 20%.
- Worked precisely on the UI/UX of cross-platform mobile applications and coded it as per requirements to regularly scale up the user experience.

Full Stack Developer

Jan 2020 - Feb 2021

Siris Technology, 6312 Cider Barrel Circle, Centreville, VA, 20121

- Designed, implemented, and automated deployment of android applications using tools like App Center, also integrated automatic testing with detox test to reduce the workload of manual QA.
- Converted designed wireframes to well-documented mobile app features including database schema design and APIs development increasing the mobile downloads by more than 40%.

Mobile Application Developer

Sep 2018 - July 2019

Thegana Services, Kathmandu, Bagmati 44606, Nepal

- Assimilated various geospatial data structures, google map and OSM APIs and integrated them in existing projects, built overall for the new addressing system in Nepal using google pcodes.
- Aggregated different firebase functions and services to eliminate the middleware of server in between application and database, reducing the response time by 25%.

TECHNICAL SKILLS

- (5+ years) JavaScript, Python, Nodejs, C, C++, HTML, CSS
(4+ years) React, React Native, Express, SQL, MongoDB, Redux, Git, Apollo, GraphQL
(2+ years) AWS, CI/CD, Docker, Arduino, Nextjs, PostgreSQL, Elasticsearch, Machine Learning, Deep Learning
(Studying) Blockchain, High Performance Computing, Knowledge Graph, Neo4j

NOTABLE PROJECTS

A Cloud-Based Dockerized Metagenomics Analysis of Biofilm Microbiome

- Coordinated with Google and NIH to develop a nextflow and docker based pipeline of analysis of Biofilm Microbiome that included about 8+ bioinformatic analytic tools like mothur, qiime, trimmomatic, picrust, fastqc, multiqc and many more.
- Programmed the whole quality detection automation running from a single script file to aid the research team and the biofilm/2D material community at large by providing a data discovery and analytic platform.

Fitsii (Fitness App)

- Contributed on full stack development ranging from designing data models, creating, and consuming large scale APIs, implementing frontend and cross platform mobile designs, launching mobile app to play store and Appstore as well as website to firebase function.
- Integrated video conferencing service capable of hosting 10+ users in a mobile app using Twilio as well as zoom third party API services as well as introduced multiuser, user to user chat system feature using firebase real-time messaging service, also added secured payment service – stripe for in-app payment.

EDUCATION

- Jan 2022 - May 2023 MS in Computer Science at **University of South Dakota, Vermillion, South Dakota**
Dec 2014 - Sep 2018 Bachelor in Electronics and Communication Engineering at **Institute of Engineering, Thapathali Campus, Kathmandu**

PUBLICATIONS

- Aryal, Shiva et al. (Dec. 2022). “Paper: Deep learning strategies for addressing issues with small datasets in 2D materials research: Microbial Corrosion”. In: *Front. Microbiol.* URL: <https://doi.org/10.3389/fmicb.2022.1059123>.