Shiva Aryal

https://github.com/ShivaAryal | shivaaryalj7@gmail.com | +1(605)2021766
https://www.linkedin.com/in/shiva-aryal | https://shivaaryal.github.io
https://www.researchgate.net

Technical Skills

(5+ years) JavaScript, TypeScript, Python, Nodejs, C, C++, HTML, CSS
(4+ years) React, React Native, Expressjs, Django, Firebase, SQL, MongoDB, Redux, Git, GraphQL
(2+ years) AWS, CI/CD, Docker, Arduino, Nextjs, FastAPI, Elasticsearch, Tensorflow, PyTorch, Linux

Professional Experience (4+ years)

Full Stack Engineer Jan 2022 - present
Bioinformatics and Computational Engineering Lab, University of South Dakota

- Developed an ETL pipeline and search engine with full stack web and mobile applications, combining 12+ biomedical research sources into one Elasticsearch instance with 500k+ indexed papers.
- Led 10+ web and NLP based projects ranging from problem design to development to deployment including COVID variant discovery, 2D material discovery, human relation discovery, ChemoReceptor-Effector Interactions, etc.
- Automated (CI/CD) the overall processes of development, deployment and monitoring with github actions, AWS and Uptime Kuma with real time alerts.
- Advised and assisted teams with various software stacks and mentored junior team members' works about code optimization, code reusability and project organization conducting training programs.

Software Developer - Frontend Feb 2020 - Jan 2022
ParallelDots, 500 Yale Ave,N Seattle WA 98109,United States

- Developed cross platform applications for perfect retail execution of skus and real-time KPI insights.
- Managed product backlogs with input from product management, engineering and QA teams to ensure timely feature development of mobile apps reducing feature timeline by about 1.5 - 2 sprints.
- Integrated tensorflowjs based in-system image manipulation and recognition system for sku and shelf detections reducing backend dependency for image predictions optimizing the flow time by nearly 20%.

Full Stack Developer Jan 2019 - Feb 2020
Siris Technology, 6312 Cider Barrel Circle, Centreville, VA, 20121

- Converted designed wireframes to 3+ website and mobile app features including database schema design, APIs development along with pupeeteer based web scrapping with reactjs, react native and nodejs.
- Integrated infrastructure to automate testing and deployment of applications, using detox test and puppeteer, resulting in 100% workflow coverage and fewer manual test cases

Notable Projects

Fitsii (Fitness Web App)

- Contributed on full stack development from designing data models, creating large scale APIs, implementing frontend and mobile apps, and deploying them into their respective stores and firebase function.
- Integrated video conferencing service capable of hosting 10+ users in a mobile app using Twilio and zoom API, multiuser chat system using firebase real-time messaging and in-app stripe payment system.

Automatic Workflow for QC of gene sequences

- Coordinated with Google and National Insitute of Health(NIH) to develop a nextflow-docker-python based pipeline of analysis of gene sequence that included about 8+ bioinformatic QC analytic tools.
- 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.

Education

- **MS in Computer Science**
University of South Dakota, Vermillion, South Dakota

- **Bachelor in Electronics and Communication Engineering**
Institute of Engineering, Thapathali Campus, Kathmandu

Publications

Allen, Cody 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.

Peta, Vincent et al. (May 2023). "CREID – A ChemoReceptor-Effector Interaction Database". In: DOI: 10.1101/2023.05.04.539426.