ANUSHKA SHRESTHA

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SUMMARY

Senior Frontend Engineer with 6+ years of experience building web applications using Angular, JavaScript, TypeScript, NodeJS, SQL and AWS. Experienced in delivering end-to-end features: from UI/UX prototyping to backend REST APIs, authentication, real-time dashboards, and cloud deployment. Focused on building simple and intuitive features for complicated problems that make a better user experience.

SKILLS & INTERESTS

Frontend: JavaScript, React JS, TypeScript, Angular, React Native, Polymer JS
Backend: NodeJS, Python, .Net(C#)
Database: MySQL, PostgreSQL, MongoDB, Redis, NoSQL
DevOps/OS: Azure, Kubernetes, Docker, AWS, Linux
Version Control/ SDLC/ tools: Jira, Scrum, Git, Agile, Figma

EXPERIENCES

Software Engineer   **Apr 2024 – Present**
Ses Americom   *Bristow, VA, USA*
- **Led the redesign of web applications,** modernizing both the application architecture and website design by restructuring the frontend and backend into a loosely coupled, modular system using **JavaScript and React.**
- **Prototyped data dense dashboards** in Figma, collaborating with satellite controllers to iteratively refine designs, establish clear visual hierarchy, and surface critical information while improving design consistency.
- Designed reusable, **stateless React + TypeScript common components**, decoupling business logic to enable cross-application reuse and faster team development.
- Improved web accessibility by building **WCAG-aligned UI components** using semantic HTML, ensuring keyboard navigation and consistent focus behavior across dashboards.
- **Led web performance optimization for data visualizations** by upgrading **LightningChart** to version 6, eliminating per-frame cursor redraws and reducing lag during prolonged dashboard usage**.**
- **Implemented secure frontend authentication flows** using SCRAM challenge-response and server-side sessions,
- leveraging React useContext to manage global auth state and session persistence.
- Deployed scalable satellite operations applications using **Azure, Docker, Kubernetes** with **CI/CD** automation.

Graduate Teaching Assistant   **Aug 2022 – Dec 2023**
Southern Illinois University Edwardsville   *Edwardsville, IL, USA*
- Mentored students with their queries, data structures and concepts in "Design and Analysis of Algorithms**"** and "Database and Web System Dev"

Software Engineer   **Nov 2018 – Jan 2022**
Leapfrog Technology Pvt. Ltd   *Kathmandu, Nepal*
- **Led the front-end development team** of six using **React** for design, review, and optimized application flow.
- Orchestrated a complex data migration operation using **Python**, successfully transferring over 100,000 email records from Outlook and Gmail to a **PostgreSQL** database.
- Leveraged **Redis** as a caching layer for frequently accessed email directory data, reducing repetitive **Postgresql** queries and improving lookup response times.
- **Built responsive web interfaces using HTML5, CSS, React, Javascript, and Material UI,** ensuring cross-browser compatibility and consistent performance across screen sizes**.**
- Optimized healthcare insurance **RESTful APIs** by integrating multiple databases and tuning queries, resulting in 30% faster data access.
- Reduced QA testing time by 60% with **unit tests** for **Flask Rest API** services.
- **Implemented an API Gateway using Python (Django) for authentication** in centralizing request routing and handling authentication for microservices.
- Docker Containerization for frontend and backend services used with **CI/CD pipeline for deployment across AWS environments**.

Software Engineer Intern   **Mar 2018 - Jul 2018**
Lis Pvt. Ltd   *Lalitpur, Nepal*
- Built **AngularJS** application and integrated Rest API into the application to show data in the user interface.
- Used PostgreSQL to store and retrieve data. Drew low fidelity wireframes for existing websites.

Trainee   **Jun 2017 - Feb 2018**
AMNIL Technologies Pvt. Ltd.   *Lalitpur, Nepal*
- Built a Windows desktop application for pharmacy management using C# and .Net.
- Worked on **CRUD** operations in **relational database** to fetch and store information

PROJECTS

Real-Time Satellite Systems Dashboard
Current Project (Javascript, React, API Services)
- Built a **real-time satellite monitoring dashboard with lazy loading** where telemetry updates automatically as new events are generated, ensuring operators always see the latest system state.
- Optimized network latency by **replacing HTTP polling with gRPC streaming**, utilizing Protobuf serialization and a single persistent TCP connection and supporting 50% more concurrent operators**.**
- Built real-time and historical data delivery using **WebSockets/SignalR f**or live telemetry and **REST and GraphQL APIs,** for historical data across distributed services.

Preprocessing Embedding Vectors for Improved Classification of Genres Using Lyrics
Master's Project (Python, NumPy, NLP, Data visualization, sklearn, machine learning)
- Enhancement of music genre classification by refining test datasets through lyrics analysis.
- Implemented lyrics-embedding preprocessing using NumPy and pandas, filtering high cosine-similarity vectors to minimize semantic overlap.
- Noticeable improvement in accuracy for Logistic Regression, Gaussian Naive Bayes, and Neural Network models.
- Benefits music recommendation systems and contributes to NLP field knowledge

Information Retrieval System

Full Stack Engineer (Typescript, React, NodeJS, PostgreSQL, CI\CD, Docker, Python, AWS)
- Developed a scalable **multi-tenant SaaS** application for centralized email management, serving as a **full stack develope**r in a React, Node.js, and Python environment.
- Implemented **advanced filtering** logic that mapped URL parameters to checkbox state, ensuring persistent filters across refreshes and direct links
- Utilized Docker containers to deploy applications on **AWS** and engineered an automated **CI/CD** pipeline on **Buddy** to streamline the deployment process and ensure seamless, continuous delivery.

Management System for drug discovery
Front End Engineer (JavaScript, MySQL, Polymer JS, HTML, CSS, Git, CI/CD)
- Played an integral role throughout the entire development life cycle, from the initial planning stages to the final deployment.
- Developed generic**, parameter-driven** features and components, ensuring high reusability and adaptability across different modules of the application. This formed the basis for other developers to reuse the component and save time. Make functionality to transform charts in web applications into an excel sheet and vice versa.
- Engineered an advanced **filtering system** with six distinct criteria for better user experience, complemented by **lazy loading** for efficient page rendering. Configured Webpack for development, QA and production mode.

Sample Serve
*Back End Engineer (*Flask, Python, AWS EC2 and MySQL*)*
- Built **Rest API** using Flask to fetch and store information related to water health surveys.
- Implemented a structured OOP approach, creating base APIs with functions for fetching, deleting, and editing data. Objects such as well, person, and lake were instantiated to tailor specific RESTful endpoints.
- Wrote comprehensive **unit tests** of the Rest API, reducing the test execution time by 40%.

EDUCATION

Master of Computer Science (GPA**:** 3.7)	**Jan 2022 - Dec 2023**
Southern Illinois University Edwardsville	*Edwardsville, IL ,USA*
Bachelor of Engineering, Computer Engineering	**Aug 2014 – Sep 2018**
Tribhuvan University	*Kathmandu, Nepal*

LEADERSHIP & VOLUNTEER EXPERIENCE

Executive Member of Sagarmatha Nepalese Student Association   **Aug 2022 - May 2023**
SIUE, Edwardsville, IL
- Organized welcome programs and events for the Nepalese students at SIUE.Conducted a futsal program for Nepalese students

Microsoft Student Partner at Microsoft Innovation Center, Kathmandu, Nepal   **Sept 2016 – Sept 2017**
- Mentored students to teach them the basics of programming. Participated in hackathons and boot camps

Certifications

Google AI Essentials — Coursera   **November 18, 2025**
https://www.coursera.org/account/accomplishments/specialization/DAE7L3VIDO1G