ANUSHKA SHRESTHA

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SUMMARY

Full stack Software developer with 6+ years of experience building web applications using React, TypeScript, NodeJS, SQL and cloud-native systems. 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 experience for the user.

SKILLS & INTERESTS

Frontend: JavaScript, React JS, Redux, TypeScript, Angular, React Native, Blazor, Bootstrap
Backend: NodeJS, Python, .Net(C#), Go
Database: MySQL, PostgreSQL, MongoDB, Redis, NoSQL
DevOps/OS: Azure, Kubernetes, Docker, AWS, Linux
AI Tools: Copilot, Gemini, ChatGPT
Version Control/ SDLC/ tools: Jira, Scrum, Git, Agile, Figma, Kanban

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, Blazor, 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.
- **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**.**
- **Optimized network latency** by replacing HTTP polling with C# 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** for live telemetry and **GraphQL APIs,** for historical data across distributed services in .NET (C#).
- **Deployed** scalable satellite operations applications using **Azure, Kubernetes** with **CI/CD** automation.

Graduate Teaching Assistant   **Aug 2022 – Dec 2023**
Southern Illinois University Edwardsville   *Edwardsville, IL, USA*
- Facilitate office hours to help 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 a team of six front-end engineers,** driving application design, code reviews, and performance optimization **in ReactJS,** while implementing **Redux for centralized state management** and application flow.
- Collaborated in a **cross-functional team** to build shared GitHub-based frontend component libraries reused across five teams, driving rapid improvements and ensuring standardized UI/UX.
- Implemented Microsoft login in a frontend application using **OAuth 2.0** with **Azure Functions**.
- **Implemented an API Gateway in Node.js** using **MVC design patterns**, centralizing request routing and handling authentication for backend services.
- **Reduced QA testing time by 60%** with Mocha-based **unit tests** for **Node JS API** services.
- **Optimized healthcare insurance RESTful APIs using Go** by eliminating nested queries and implementing **data encryption** in **PostgreSQL**, improving query efficiency, security, and overall data access performance.
- Improved read performance by **offloading SQL to MongoDB**, contributing to a **30% increase in response speed.**
- Containerized services with **Docker for CI/CD across AWS environments**. Added **AWS Lambda** functions for event-driven email notifications.
- **Built responsive web design** using web technologies such as **HTML5, CSS, Bootstrap, React, Typescript** and tested the layouts for different screen sizes.

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 (gRPC, C#, Blazor, LightningChart)
- 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.
- **Created mock gRPC servers** to simulate real-time telemetry streams, allowing frontend development and testing to proceed independently of backend data availability.
- **Implemented secure frontend authentication flows** using SCRAM challenge-response and server-side sessions, leveraging React useContext to manage global auth state and session persistence.

Preprocessing Embedding Vectors for Improved Classification of Genres Using Lyrics
Master's Project (Python, NumPy, NLP, Data visualization, sklearn)
- 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, Redux, 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.
- **Led the front-end development team** of five using **ReactJS** for design, review, and optimized application flow.
- Developed **React components with Hooks,** including both generic and specific components.
- Implemented **advanced filtering** logic that mapped URL parameters to checkbox state, ensuring persistent filters across refreshes and direct links
- Orchestrated a complex data migration operation using **Python**, successfully transferring over 100,000 email records from Outlook and Gmail to a **PostgreSQL** database, with **Redis** employed to optimize data access and maintain system responsiveness during the transfer.
- 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)
- Owned features end-to-end, from planning through 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*	

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	