NIRANJAN SHAH

Canberra, 2617, Australia | +61432518736

niranjanshah474@gmail.com | niranjanshah.com.np | linkedin.com/in/niranjan-shah

PERSONAL SUMMARY:

Software Engineer skilled in backend development, full-stack applications, and cloud computing. Proficient in Python, Go, Node.js, C++, React, and Next.js, with expertise in RESTful APIs, database optimization, and CI/CD automation. Passionate about building scalable solutions, optimizing system performance, and developing high-impact applications.

CORE SKILLS:

- **Languages**: Python, C/C++, Go, SQL (PostgreSQL, MySQL), JavaScript (React.js, Next.js), HTML/CSS, R
- **Machine Learning & Data Science**: PyTorch, TensorFlow, scikit-learn, Pandas, NumPy, Databricks
- **Web Development**: FastAPI, Django, Node.js (Express), React.js, Next.js, Tailwind CSS
- **Data Visualization**: Matplotlib, Seaborn, Power BI, Tableau
- **Cloud & DevOps**: AWS (EC2, S3, Lambda, DynamoDB), Firebase, Docker, Kubernetes, Vercel
- **Database & Storage**: PostgreSQL, MySQL, MongoDB, SQLModel (SQLAlchemy), Redis
- **Software Development & Tools**: Git, GitHub, GitLab, CI/CD (Jenkins, GitHub Actions)

EDUCATION:

Master of Data Science in AI and Computational Modelling   2022-2024
University of Canberra, ACT, Australia   6.6/7 GPA, 87.4%
Bachelor of Computer Engineering   2017 - 2021
Tribhuvan University, Nepal

PROFESSIONAL EXPERIENCE:

Software Engineer

Citrana Creatives, Nepal   Dec 2021 – July 2022

- Database Design & Optimization: Designed and optimized relational and NoSQL databases, reducing query execution times by 30% and improving operational efficiency.
- Backend Development: Built and maintained scalable backend services using Node.js, Firebase, and AWS S3, enhancing data storage efficiency and reducing application load times by 40%.
- Frontend Development: Developed a responsive user interface using React.js and Material UI, significantly improving the user experience and reducing page load times.
- Agile Development: Collaborated with cross-functional teams in Agile and Scrum-based workflows, increasing project delivery speed and ensuring timely feature releases.
- Performance Tuning & Testing: Conducted performance optimizations and executed comprehensive test plans using Jest and Cypress, improving application speed and reducing server load by 25%.
- CI/CD & DevOps: Integrated CI/CD pipelines with GitHub Actions, automating deployments and improving release cycles.

Backend Developer

Digital Office Technology | Nepal   Jan 2021 – Dec 2021

- Database Development: Designed and managed relational and NoSQL databases using SQL, PostgreSQL, and MongoDB, enhancing data integrity and reducing query response times by 35%.
- Backend API Development: Engineered RESTful APIs using Node.js and Express.js, enabling smooth system integrations and reducing development time by 20%.
- School Management System: Led backend development for a school management system using Laravel, improving student record management and administrative workflows.
- Code Quality & Debugging: Conducted comprehensive code reviews and debugging sessions, reducing system errors and enhancing overall code quality.

- Authentication & Security: Implemented JWT-based authentication and role-based access control (RBAC), strengthening security across various applications.
- Cloud & Deployment: Managed cloud deployment on AWS, setting up EC2 instances and integrating S3 for scalable file storage.
- Testing & Agile: Implemented unit tests and TDD practices, driving a culture of quality and accountability in line with Agile methodologies, including participation in sprint planning and retrospectives.
- Linux & Version Control: Utilized a Linux environment for development and Git (GitHub) for version control, ensuring reliable code versioning and collaboration in an Agile setting.

PROJECTS:

BitTorrent Client | *C++, TCP, HTTP, Multithreading*

Github: https://github.com/niranjanblank/bittorrrent_client

- Built a fully functional BitTorrent client to download files from torrent networks efficiently.
- Implemented Bencoding encoder/decoder to parse metadata from .torrent files.
- Established TCP server connections, enabling peer-to-peer communication via handshake messages.
- Designed an efficient peer communication system using multithreading to handle multiple connections simultaneously, improving download speed and resource management.
- Used CMake for build system management, ensuring portability and ease of compilation.

Project Management Tool - Flow | *FastAPI, Next.js, PostgreSQL, AWS*

Github: https://github.com/niranjanblank/flow_frontend , https://github.com/niranjanblank/flow_backend

- Developed a Trello-like task management tool with a FastAPI backend and a Next.js frontend, enabling seamless task organization and board management.
- Designed and optimized the PostgreSQL database using SQLModel (SQLAlchemy) for efficient querying and relational data handling.
- Implemented JWT-based authentication, ensuring secure and independent user access, preventing unauthorized interactions between users.
- Followed Test-Driven Development (TDD) principles, writing comprehensive unit and integration tests in Pytest, improving code reliability and catching regressions early.
- Designed for single-user task management, allowing each user to create and manage multiple boards independently, enhancing productivity.

Sentiment Analysis Tool | *Python, TensorFlow, FastAPI, AWS, React.js*

Github: https://github.com/niranjanblank/SentimentAnalysisBackend

- Built a sentiment analysis system using an LSTM model trained on 1.6M tweets from the Sentiment140 dataset, achieving 85% accuracy.
- Preprocessed text using pandas, NLTK, and word2vec embeddings to enhance model performance.
- Developed a FastAPI backend for real-time inference, optimized for low-latency (<200ms response time) and deployed on AWS EC2.
- Created a React.js frontend (Material UI) for real-time sentiment classification and deployed it on Vercel for seamless user experience.

Additional Projects

- Find more of my projects on GitHub: github.com/niranjanblank

RESEARCH AND OPEN SOURCE CONTRIBUTIONS:

- Paper Published: "File Security System using Hybrid Cryptography and Face Recognition" – Presented at the 2nd International Conference on Mobile Computing and Sustainable Informatics (ICMCSI 2021). The research explores a hybrid cryptographic approach combined with face recognition for secure file encryption and access control.

REFERENCE:

Provided upon request