GAURAV NEUPANE

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SOFTWARE DEVELOPER

Experienced Software Developer with over 4 years of experience in backend development, cloud computing, and artificial intelligence. Highly skilled in AWS, Docker, and PostgreSQL, with a strong track record of optimizing performance and delivering robust software solutions in the Gaming, FinTech, and AI industries. Expertise in agile methodologies and adept at transforming complex requirements into practical solutions. Recognized for excellent communication and teamwork skills, excelling in fast-paced, collaborative environments. A proactive learner with a passion for innovation, always seeking to expand expertise and leverage cutting-edge technologies to solve complex problems.

Artificial Intelligence ● API Development ● Cloud Computing ● Version Control ● Containerization
Database Design ● Language Modeling ● Machine Learning

Languages: Python, Golang, Typescript
Web Services: REST
Web/App Servers: Nginx
Frameworks: FastAPI, NestJS, NodeJS, Tensorflow, Keras, Langchain, Transformers
Databases: PostgreSQL, MySQL, MongoDB, Redis, Chromadb
Design Patterns: Singleton, Facade, Dependency Injection, Repository, Decorator, Iterator
SDLC: Agile
Tools: AWS, Poetry, Numpy, Pandas, Matplotlib, OpenCV, Jupyter Notebook, NPM, Poetry, Jira, Docker, Kubernetes, Prometheus, Grafana, Convolutional Neural Network (CNN)
Platforms: Linux, MacOS

PROFESSIONAL EXPERIENCE

*CAREER NOTE: Completed on-campus studies and currently taking distance education courses to complete a **Master's Degree in Computer Science** (Available for full-time, W-2 employment).*

YARSA LABS PRIVATE LIMITED, Pokhara, Nepal ● 06/2022 – 12/2023
A software company specializing in the development of games, applications, and innovative tech products.

Backend Developer
Developed Backend application for B2B and games

- Developed a background removal AI application with Python, OpenCV, CNN, TensorFlow, and Docker, improving security and reducing costs by removing reliance on third-party services and enhancing deployment consistency.
- Engineered a scalable, reliable matchmaking system for a real-time gaming app with Golang, Kubernetes, and gRPC, cutting deployment times by 20% and ensuring seamless gameplay for millions.
- Collaborated on developing a B2B e-commerce application with NestJS, PostgreSQL, Minio, Keycloak, Docker, and Apache Solr, achieving 100% test coverage to ensure robust performance while enhancing search capabilities and user authentication.
- Optimized API search functionalities within the B2B application using Apache Solr, resulting in a 15% reduction in search latency and improving the overall user experience.
- Enhanced real-time gaming backend systems by implementing MongoDB aggregation pipelines to resolve race conditions and using Redis for efficient data caching, reducing latency by 10% and improving gameplay performance.
- Implemented a robust backend system for real-time gameplay features using a combination of NestJS, Docker, and Kubernetes, supporting over 100 million downloads and ensuring high availability and reliability.

***Technologies Used:** Golang, Python, Typescript, NestJS, Docker, Redis, MongoDB, PostgreSQL, Keycloak, Minio, Apache Solr, Kubernetes, OpenCV, CNN, TensorFlow*

BOTTLE TECHNOLOGY PRIVATE LIMITED, Kathmandu, Nepal ● 10/2021 – 06/2022
A software company dedicated to creating innovative fintech applications.

Associate Backend Engineer
Built Fintech Application

- Developed and deployed an OCR and signature extraction system for a Fintech application using Python, OpenCV, TensorFlow, and Keras, improving accessibility for users and increasing sales by 30%.
- Built an online trading application in Nepal by leveraging AWS, Docker, and PostgreSQL, enhancing scalability and reliability, and achieving a 50% improvement in system uptime.
- Integrated over 100 APIs for back-office applications and websites using Python, FastAPI, Redis, and PostgreSQL, leveraging AWS services to enhance scalability and performance in real-time processing.
- Built a web scraping application to extract information from various government sites using Python, Selenium, and BeautifulSoup, automating data collection and improving operational efficiency.
- Deployed machine learning projects using Docker, AWS EC2, and FastAPI, streamlining deployment processes and ensuring consistent environment management.

Technologies Used: *Python, AWS, Docker, PostgreSQL, Redis, Selenium, Tensorflow, Keras, OpenCV, Beautifulsoup.*

INSPIRING LAB PRIVATE LIMITED, Kathmandu, Nepal • 04/2020 – 08/2021
AI company based on Nepal.

Software Engineer (AI)
Built AI applications
- Developed a backend system for a vehicle detection model using Python, FastAPI, AWS, WebSocket, OpenCV, ONNX, Docker, Redis, and PostgreSQL, ensuring robust and scalable performance.
- Deployed an upgraded computer vision-based object detection and tracking model for a vehicle surveillance system, leveraging TensorFlow and OpenCV, and enhancing accuracy by 5%.
- Optimized and deployed a machine learning model for automated live pollen and mold count at Pollen Sense using TensorFlow, improving accuracy by 3% and reducing latency by 10%.
- Designed a pipeline for automatically creating, training, and updating machine learning models in production using Python and FastAPI, enhancing data flow efficiency and increasing real-time model update capabilities with new data.
- Leveraged Docker to streamline the deployment of machine learning and backend systems in a production environment, ensuring consistency and improving operational efficiency.

Technologies Used: *Python, FastAPI, AWS, PostgreSQL, TensorFlow, OpenCV, Keras, Docker, Redis, WebSocket.*

INTERNSHIP EXPERIENCE

YARSA LABS PRIVATE LIMITED, Pokhara, Nepal • 06/2017 – 12/2017
A software company specializing in game and application development.

Artificial Intelligence Intern
Built Game Agents
- Developed ML-Agents for Unity-based games using Python, TensorFlow, and Keras, enabling advanced AI-driven behaviors and enhancing gameplay experiences.
- Conducted research on AI applications in the gaming industry with a focus on machine learning and deep learning technologies, driving innovation and identifying new opportunities for AI integration in game development.

Technologies Used: *Python, TensorFlow, Keras.*

ACADEMIC PROJECT

Maharishi International University (2024) Kubernetes and Docker: Developed a web application to demonstrate the containerization and orchestration of a Spring Boot application using Docker and Kubernetes, showcasing efficient scaling, rollbacks, and CI/CD support. My role included Dockerizing the application and creating Kubernetes configuration files. Utilized Java, Docker, Kubernetes, Spring Boot, and WebStorm in a team of three for this academic project.

EDUCATION

Master of Science in Computer Science
(In progress via distance education; expected completion 10/2026)
Maharishi International University, Fairfield, Iowa

Key Courses: Enterprise Architecture, Machine Learning, Database Management, Web Application Programming

Bachelor in Computer Science and Information Technology
Tribhuvan University, Pokhara, Nepal