JEEVAN KAPHLE

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Cohoes - NY - 12047, USA

OBJECTIVE

Motivated and results-driven Software Developer with strong expertise in Java development, including Spring Boot, RESTful APIs, and enterprise-level applications. Skilled in designing and developing scalable, maintainable software solutions with a focus on clean code and performance optimization. Proven experience in collaborating with cross-functional teams to deliver high-quality software. Additional proficiency in Python, full-stack development, and AI/ML integrations.

EXPERIENCE

• University of South Dakota [血]

Jan 2024 - May 2024

Research Assistant, Department of Computer Science

Vermillion, United States

- Conducted research on Vision Transformers for COVID-19 lung X-ray classification.
- Preprocessed large-scale image datasets and trained ViT-based models using TensorFlow and Keras.
- Evaluated model performance with segmentation/classification metrics for medical image diagnosis.
- Contributed to documentation and assisted in literature reviews for potential publications.

Pathway Technology

2019 - 2023

Software Developer Kathmandu, Nepal

- · Led design, testing, debugging, and implementation of systems and new features tailored to client requirements.
- Gathered system requirements and delivered timely implementations matching functional specifications.
- Developed modular, reusable, and testable code components for core platform features.
- Maintained and optimized backend services and database interactions to ensure high performance and reliability.
- Spearheaded improvements in application performance by updating and adjusting core features.
- · Oversaw and mentored a team of junior developers in best practices and code quality.
- · Ensured adherence to quality standards through troubleshooting and maintenance of product software and database systems.
- Technologies Used: IntelliJ IDEA, Java, Spring Boot, Maven, AWS, SQL, Oracle, HTML, CSS, JavaScript, jQuery, Bootstrap, AOP, Apache Tomcat, Atlassian Jira, Bitbucket, GitHub, Postman, Windows, Ubuntu

EDUCATION

• University of South Dakota

Jan 2024 – May 2025

Master of Science in Computer Science

Bachelor of Engineering in Computer Engineering

Vermillion, United States

GPA: 4.0

- Courses: Data Mining, Distributed Systems, Computer Vision, Artificial Intelligence, Seminar, Reinforcement Learning
- Sagarmatha Engineering College (Tribhuvan University)

2017 - 2022

Lalitpur, Nepal

Aggregate: 75.12%

PROJECTS

Large Language Models (LLMs) and Transformers: NLP System Exploration

Tools: Python, Transformers, GPT, BERT, T5

- Gained deep understanding of Transformer architecture, including attention mechanisms and self-attention.
- Worked with large-scale models such as GPT, BERT, and T5 for NLP tasks.
- Familiar with training, fine-tuning, and deployment workflows.
- Explored applications in text generation, summarization, and question answering.
- Applied Tree, Set, List, Linked List and Hash Map structures to optimize pattern recognition and search tasks in AI-based text classification.

Proteomics Chatbot - Intelligent Protein Information Retrieval Tool

Tools: Python, NLP, UniProt API, GPT-based Summarization

 Built a domain-specific chatbot for extracting and summarizing protein data from UniProt using natural language queries.

- Integrated GPT-4 Mini for dynamic scientific response generation.
- Applied Named Entity Recognition (NER) techniques for biological term parsing.
- Used web scraping and RESTful APIs for real-time biomedical interaction.

Baagchal AI - Reinforcement Learning for Asymmetric Strategy Game

Tools: Python, Q-learning, Tkinter, Game AI

- Trained a Q-learning agent for Baagchal, a Nepali strategy game with asymmetric roles.
- Engineered an OpenAI Gym-like environment for state transition simulation.
- Developed a Tkinter-based GUI with emoji visuals and real-time gameplay.
- Incorporated diagonal moves, multi-capture logic, and policy enhancements.
- Implemented efficient data structures and search algorithms to reduce lookup time in a rule-based reinforcement learning agent for the Baagchal board game.

Nepali Handwritten Text Recognition

Tools: Python, Vision Transformer, TensorFlow/Keras

- Developed an OCR system for recognizing Nepali handwritten characters using CNN, RNN, and LSTM.
- Utilized CTC loss for accurate sequence prediction in text recognition.
- Converted handwritten images to editable digital text with high accuracy.
- Applied the system for document digitization and archival use cases.

COVID-19 Detection Using Vision Transformer

Tools: Python, ViT, TensorFlow/Keras

- Implemented a Vision Transformer for detecting COVID-19 in chest X-ray images.
- Integrated object detection and segmentation techniques for ROI analysis.
- Applied image augmentation to enhance model generalization.
- Contributed to improving accuracy and inference efficiency.

SKILLS

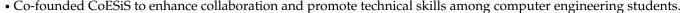
- Programming Languages: Java, Python, JavaScript, C
- Java Technologies and Frameworks: Spring Boot, Spring MVC, Hibernate, Maven, IntelliJ IDEA, JSP, Servlets, Kafka
- AI/ML Frameworks and Libraries: TensorFlow, Keras, Scikit-learn, Pandas, NumPy, PyTorch
- Web Development: HTML, CSS, Bootstrap, Django, Flask
- Database Systems: MySQL, PostgreSQL, MongoDB, SQLite
- DevOps and Version Control: Git, GitHub, Jenkins
- DevOps Tools: Azure DevOps, Git, Docker, RPM packaging, VS Code
- Cloud and Deployment: AWS, Docker, Google Cloud Platform (GCP)
- Specialized Areas: Computer Vision, Natural Language Processing (NLP), Time Series Analysis
- Testing: JUnit, Mockito
- Mathematical and Statistical Tools: Statistics, Optimization Techniques
- Other Tools and Technologies: VSCode, Jupyter Notebook, pgAdmin, Microsoft Office

LEADERSHIP EXPERIENCE

Founder Member - Computer Engineering Society in Sagarmatha (CoESiS)

2019 - 2022

Sagarmatha Engineering College



- · Led seminars and workshops, resulting in a significant increase in member engagement and participation.
- Established industry connections to support educational growth and professional development initiatives.

Organizer - Sagarmatha Techno Fest

2022

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Sagarmatha Engineering College

- Spearheaded the planning and execution of Sagarmatha Techno Fest, a large-scale innovation and technology event.
- Managed logistics, outreach, and sponsorship relations, leading to a noticeable increase in event attendance.
- Coordinated keynote sessions and hands-on workshops with participation from students, faculty, and industry
 experts.