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 [🏛]** *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 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*
  Bachelor of Engineering in Computer Engineering 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,LinkedList and HashMap 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 [🌐]

- Co-founded CoESiS to enhance collaboration and promote technical skills among computer engineering students.

- 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*
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.