

Prasun Kumar

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TECHNICAL LEAD: AI & ML

Advanced AI & ML Algorithms ★ Deep Learning Frameworks ★ Natural Language Processing

Seeking a challenging role as a Technical Lead in AI & ML, to leverage extensive experience and expertise of 7+ years to drive innovative projects, lead cross-functional teams, and contribute to the development of cutting-edge solutions in artificial intelligence and machine learning. The goal is to lead impactful initiatives, foster collaboration, and deliver high-quality AI and ML solutions that drive business growth and technological advancement.

EXECUTIVE SYNOPSIS

- Expertise in designing, implementing, and optimizing advanced artificial intelligence and machine learning, designing and developing scalable and production-ready AI and ML solutions, including model deployment, monitoring, and maintenance in cloud environments such as AWS, Azure
- Proficient in utilizing deep learning frameworks such as TensorFlow, PyTorch, and Keras to develop and deploy deep neural network models for various applications
- Skilled in developing NLP models for tasks such as sentiment analysis, named entity recognition, and text generation, leveraging techniques such as word embeddings and transformer architectures
- Strong understanding of computer vision techniques and frameworks, including image classification, object detection, and image segmentation, using libraries like OpenCV and TensorFlow Object Detection API
- Experienced in data preprocessing techniques and feature engineering methods to optimize data quality and improve model performance in AI and ML projects.
- Proficient in evaluating model performance metrics and implementing optimization techniques such as hyperparameter tuning and model ensemble methods to enhance model accuracy and efficiency.
- Demonstrated ability to lead cross-functional teams, collaborate with stakeholders, and communicate effectively to drive successful AI and ML projects from concept to delivery, ensuring alignment with business objectives.
- Track record of success in identifying and solving complex technical issues in AI and ML projects

CORE COMPETENCIES

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|--------------------------|--|-------------------------------|
| • Python | • Natural Language Processing (NLP) | • Performance Optimization |
| • ML Algorithms | • Generative Adversarial Networks (GANs) | • Anomaly Detection |
| • Data Manipulation | • Automated Machine Learning (AutoML) | • GPT 3.5 Fine Tuning |
| • Data Visualization | • Model Deployment & Servings | • Research and Innovation |
| • Cloud Computing | • Hyperparameter Tuning | • Cross-Functional Leadership |
| • Reinforcement Learning | • Model Evaluation and Validation | • Version Control Systems |
| • Recommendation Systems | • Time Series Analysis | • CI/CD Pipelines |
| • Predictive Modelling | • Convolutional Neural Networks (CNN) | • Project Management |

TOOLS

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|--------------------|----------------|--------------------|
| • TensorFlow | • PyTorch | • Docker |
| • MLFlow . AirFlow | • Scikit-learn | • JIRA, ServiceNow |
| • OpenAI Gym | • Keras | • MATLAB |

PROFESSIONAL EXPERIENCE

Harbinger Group, Pune, India
Apr 2021 – Present | Senior Software Engineer

Accomplishments:

- Enhanced API response time by 80% through the implementation of multithreading techniques, enhancing user query responsiveness.

- Contributed to AI/ML research and development by exploring diverse AI models and crafting Python APIs, leveraging AWS services such as Kendra and Comprehend
- Developed a pipeline utilizing ChatGPT 3.5 and above, enabling seamless extraction of PHI entities, case-type categories, subcategories, and case summaries from uploaded PDFs of Medical Claim documents. (Achieved an 80% enhancement in efficiency, substantially reducing manual workload)

Key Accountabilities:

- Develop and maintain high-quality software solutions in accordance with project specifications, while adhering to coding standards and best practices.
- Collaborate with cross-functional teams including product management, design, and quality assurance to define requirements, plan features, and ensure successful product delivery
- Participate in design and architectural discussions, providing technical expertise and guidance to drive effective decision-making
- Write clean, efficient, and maintainable code across multiple programming languages and platforms, ensuring scalability, performance, and security
- Conduct code reviews, provide constructive feedback, and mentor junior engineers to foster a culture of learning and continuous improvement
- Investigate and troubleshoot complex technical issues, implementing effective solutions and optimizations to meet project deadlines and objectives
- Actively participate in Agile development processes, including sprint planning, daily stand-ups, and retrospectives, to drive project success and team collaboration

Projects:

- Medical Insurance Document Processing Automation: Implemented an end-to-end automation solution for processing medical insurance documents using a combination of UiPath, Python, and advanced natural language processing (NLP) techniques. The project aimed to enhance efficiency and accuracy in handling medical insurance documents while ensuring compliance with privacy regulations.
- Predictive Healthcare Model for Mortality Risk Assessment: Built a predictive model to estimate mortality risk using medical data such as blood pressure, blood sugar levels, cardiac history, age, gender, lifestyle factors, and daily activity. Employed machine learning algorithms to analyse and predict potential life-threatening events.
- Attendance System with Hand Gesture Recognition: Developed an innovative attendance system leveraging computer vision and gesture recognition technology. Implemented a solution where employees can mark their attendance by waving their hands in front of a webcam
- Employee Emotion Detection and Notification System: Developed an emotion detection system utilizing facial recognition technology from webcam images. Implemented automated analysis to detect signs of sadness or stress in employees. Integrated with email notification to HR and managers for timely intervention and support.
- Object Detection using YOLO: Implemented object detection using the state-of-the-art YOLO (You Only Look Once) model. Developed a robust system capable of real-time detection and recognition of objects in images or videos. Applied in various domains such as surveillance, autonomous vehicles, and augmented reality, demonstrating versatility and practical application of computer vision technology

Extentia Information Technology, Pune, India

Nov 2019 – Apr 2021 | Software Developer

Key Accountabilities:

- Developed applications using Pandas for ETL processes. Created APIs utilizing pre-trained models and optimized their performance using multithreading techniques
- Maintained and designed applications to meet industry standards, ensuring both existing and new systems were robust and efficient
- Implemented a chatbot using NLP techniques such as intent recognition, named entity recognition, and dialogue management
- Engineered an innovative attendance tracking system leveraging computer vision and gesture recognition, enabling contactless attendance marking by waving a hand in front of a webcam
- Enhanced codebases by revising, modularizing, and updating old code to adhere to modern development standards, resulting in reduced operating costs and improved functionality

Projects:

- Resume Parsing & ATS Matching Project: Developed a resume parsing and Applicant Tracking System (ATS) matching solution aimed at efficiently analyzing resumes, extracting relevant skills, and matching candidates to suitable job opportunities within the company.

- Restaurant Chatbot: Created a chatbot using AllenNLP, and Elasticsearch, and integrated cosine similarity with BERT embedding, resulting in a remarkable 70% accuracy improvement.
- Translation API using Whisper: Created a translation API leveraging Whisper technology for secure and private communication. Developed an efficient and accurate translation service to bridge language barriers. Contributed to global communication and accessibility by enabling seamless translation in various contexts.

Symantec Software India Pvt Ltd, Pune, India
Jan 2017 – Oct 2019 | Associate IT Applications Specialist

Key Accountabilities:

- Executed Python automation and optimization initiatives, including streamlining processes such as database patching and refreshing using shell scripts and Python
- Collaborated with the team to ensure smooth database system operations and optimize performance, resulting in a productivity increase of over 70%
- Successfully conducted a Proof of Concept for Conference Room Monitoring Using IoT technology. Spearheaded the development of a Dashboard to support day-to-day on-call activities
- Automated the SOX Audit Report with Python, significantly reducing manual efforts and improving efficiency during quarterly publishing
- Implemented Python automation for MYSQL backups, enhancing data reliability and minimizing the risk of data loss
- Collaborated with Release Engineering team members to design new application systems aligned with client requirements for system applications.

Projects:

- Service Now Monitoring Dashboard: Created Flask and MySQL web dashboards to oversee ServiceNow tickets and server performance, enhancing team efficiency and enabling proactive interventions. Achieved over 30% productivity increase by optimizing SLA management.
- SOX Report Automation: Automated the SOX Audit Report with Python, significantly reducing manual efforts during quarterly publishing.
- LMS Course Template Conversion Automation: Developed an automated solution in Python to convert legacy JSON templates to a new format for Learning Management System (LMS) courses. This project aimed to enhance content management and ensure template consistency across the LMS platform.

EDUCATION

- **MCA – Artificial Intelligence**, Pune University, India, 2017
- **BCA**, Sikkim Manipal University, India, 2014

TRAINING AND CERTIFICATIONS

- Executive Post Graduate – ML & AI, IIITB, 2024
- Certified Information Security & Ethical Hacking V8, Mar 2018
- Agile Project Management

AWARDS & ACCOLADES

- Technical Star Award | Harbinger Group | May & Jul 2023
- Superstar Award | Harbinger Group | Jun 2023
- Team player - Quarterly Award | Harbinger Group | Apr-May 2023
- Wow Award | Symantec | Jun 2017

PERSONAL DETAILS

- **Date of Birth:** 10 Jan 1992
- **Nationality:** Indian
- **Languages Known:** English, Hindi and Marathi