BHARGAV REDDY MUNNANGI

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SUMMARY

- Accomplished IT Professional with 6 years of expertise in Software Development and Data Science across diverse domains, proficient in leveraging Artificial Intelligence for data analysis and problem-solving.
- Worked as a Data Scientist at Larsen & Toubro, driving the implementation of cutting- edge technologies to develop innovative solutions that elevate customer experiences, with a focus on Machine Learning and Natural Language Processing techniques.
- Excelled in leading projects across various industries including medical, manufacturing, retail, and service, showcasing a deep understanding of cross- platform domains and a knack for quickly grasping technical and domain concepts.
- Skilled at spearheading projects from inception to production, showcasing proficiency in developing custom NLP algorithms, Machine Learning models, and Deep Learning technologies to address complex challenges in diverse domains.
- Proven track record of achievements including the development of search-based analytical tools, clustering incidents using ML and NLP, and implementing defect classification systems using Computer Vision and Deep Learning.
- Experienced Senior Machine Learning Engineer with a background in Electro-Mechanics, contributing to the deployment of object detection models in manufacturing units and developing project-specific annotation tools from scratch.
- Possessed strong programming skills in Python and a wide array of software tools including Pytorch, TensorFlow, Spacy, NLTK, and more, complemented by a foundation in statistics, probability theory, and time series analysis.

PROFESSIONAL EXPERIENCE

Larsen & Toubro, Chennai, India   Jul 2018 – Aug 2022

Data Scientist

- Worked as a Data Scientist at Larsen & Toubro, specializing in Machine Learning and Natural Language Processing techniques for tasks such as text classification and entity extraction.
- Successfully spearheading the development of a search-based analytical tool, managing its inception from scratch through to production, and actively participated in crafting the comprehensive project architecture.
- Leading the development and implementation of advanced machine learning algorithms to address complex business challenges and improve operational efficiency.
- Collaborating with cross-functional teams to identify opportunities for applying machine learning solutions and providing technical guidance throughout the project lifecycle.
- Researching and staying updated on the latest advancements in machine learning, deep learning, and natural language processing techniques, ensuring continuous innovation and optimization of existing models.
- Conducting thorough data analysis and preprocessing to prepare high-quality datasets for model training, validation, and evaluation.
- Optimizing model performance by fine-tuning hyperparameters, conducting feature engineering, and leveraging ensemble methods.
- Establishing robust testing frameworks and validation procedures to ensure the reliability, accuracy, and scalability of machine learning models in real-world scenarios.
- Mentoring junior team members and facilitating knowledge-sharing sessions to foster a culture of continuous learning and skill development within the machine learning team.
- Proactively identifying areas for process improvement and contributing to the development of best practices and standards for machine learning model development and deployment.

Larsen & Toubro, Delhi, India   Jul 2016 – Jun 2018

Machine Learning Engineer

- Worked as Machine Learning Engineer, specializing in ML and DL technologies, with notable contributions including the development and deployment of an Object Detection Model in manufacturing units.
- Spearheaded the creation of key features for a project-specific annotation tool and engaged in the utilization of Generative Adversarial Networks to generate data for diverse projects.
- Implemented custom NLP algorithm development using Python libraries like Spacy for medical domain challenges, and skilled in building ML, DL, and NLP models for text classification.

- Worked on end-to-end project development, including custom testing framework creation and automation of manual tasks for efficient data grooming, resulting in time savings.
- Drove the development and implementation of machine learning algorithms for predictive analytics, achieving a significant improvement in accuracy and efficiency.
- Led cross-functional teams in the design and execution of machine learning projects, resulting in the successful deployment of scalable solutions.
- Conducted comprehensive data analysis and model evaluation to identify areas for optimization, driving continuous improvement in algorithm performance.

PROJECT EXPERIENCE

Conversational AI Chatbot for Project Management
- Developed and deployed a conversational AI chatbot using Python, Rasa, NLTK and NLP libraries to automate data extraction from project documentation and assist in tender works.
- Implemented Natural Language Understanding (NLU) and Dialog Management with Rasa, GPT-3/BERT, and rule-based fallback mechanisms, ensuring accurate, context-aware responses and reducing manual workload.

AI-Driven Structural Optimizer
- Saved $12.5M YoY by developing an AI-powered optimization engine using Differential Evolution to minimize costs while optimizing structural design parameters.
- Implemented black-box optimization, constraint handling, and simulation-based validation to generate data-driven design recommendations and automated BOQ reports.

Other Projects
- Search Based Analytical tool using Machine learning (ML) & Natural language processing (NLP)
- Clustering of Incidents using Machine learning (ML) & Natural language processing (NLP)
- Defect Classification of Capacitors using Computer Vision and Deep learning.
- Trespassing Detection using Artificial Intelligence.
- Clinical Code Detection from EMR chart using Machine Learning (ML), Natural language processing (NLP) & Elastic search.
- Patient Data Generation using Natural language processing (NLP)
- Pay slip & Attendance Management using Python & Raspberry Pi
- Queue management system using Computer Vision and Deep learning

TECHNICAL SKILLS

Programming Languages: Python (NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn), SQL, R, C, C++
Tools: Git, Appian, UI Path, KNIME, Excel, Solver, Power BI, Tableau, Tableau Prep, SAS, Alteryx, SQL SRSS, ETL Pipelines, Apache Spark, Hadoop, AWS (S3, Redshift, Glue), Snowflake, Spacy, NLTK, Pytorch, Keras, Gensim, TensorFlow, Pyspark, Jenkins, Postman, Flask, FastAPI, JIRA
Core Competencies: Data Science, AI, ML & NLP, Data Visualization, Predictive Analytics, Business Intelligence, Data Mining, Agile Methodologies, Project Management, Quality Assurance

EDUCATION

The University of Texas at Dallas   Aug 2023 – May 2025
Master of Science, Business Analytics & Artificial Intelligence
The University of Texas at Austin   Jan 2022 – Jan 2023
Post Graduate Program, Data Science & Business Analytics

AWARDS

Business Analytics Student for Graduating Semester, *Naveen Jindal School of Management*   Apr 2025
Engineering Innovation Award, Larsen & Toubro   Dec 2021
Outstanding Performer, *Larsen & Toubro*   Oct 2021