SAURABH BHAUSAHEB ZINJAD

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EDUCATION

Arizona State University, Tempe, USA August 2023 - May 2025
Masters of Science in Computer Science (GPA: 4/4)

Relevant Courses: *Social Media Mining, Knowledge Representation and Reasoning Algorithms, Statistical Machine Learning*

Pune Institute of Computer Technology(PICT), Savitribai Phule Pune University, India July 2015 - June 2019
Bachelor of Engineering (GPA: 8.53/10)

Relevant Courses: *DSA, OOP, OS, System Programming, Computer Networks, Information Theory, Artificial Intelligence, Machine learning, Digital Video and Image Processing*

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, C#, C++, SQL, R, Java, Shell Scripting
Data Science: Databricks, PySpark, TensorFlow, PyTorch, MXNet, OpenCV, Scikit Learn, Pandas, Matplotlib, Keras
Cloud and DevOps: Azure, AWS, Docker, Kubernetes, MLFlow, Jupyter Notebook, Git
Full-Stack Tech: Angular, React, .Net Core, NodeJs, Django, Flask, FastAPI, MongoDB, SQL Server, MySQL, Postman
Certifications: **Deep Learning Specialization**, **MLOps for AI Engineers and Data Scientists**, **Microsoft Azure Fundar**

WORK EXPERIENCE

Tiger Analytics Bangalore, India
Senior Machine Learning Engineer June 2022 - July 2023

- Led a team of 8 analysts to spearhead the development of Interactive Dashboards, Constraint-based ML Models, Web App, Data & CI/CD pipelines, and Comprehensive Documentation for MSP Value Optimization in the Petcare sector.
- Developed the MLCORE product (end-to-end MLOps platform) by implementing research ideas, organizing through prototyping, backend API Implementation, and Integrating it with numerous cloud services, attracting an additional four significant clients.

Winjit Technologies Pune, India
Software Engineer January 2020 - June 2022

- Engineered the architecture for 10+ RESTful APIs and Distributed services.
- Designed 30+ low-latency responsive UI/UX application features with high-quality web architecture.
- Managed and optimized large-scale Databases.
- Initiated and Designed a standardized solution for dynamic forms generation with customizable CSS capabilities, reducing development time by 8x.
- Led and collaborated with a 12-member cross-functional team.

Automation Teknix Pune, India
Deep Learning Engineer September 2019 - January 2020

- Devised a Lightweight Object Recognition Engine by leveraging an SSD algorithm with MobilenetV2 architecture, decreasing survey error by 22%.
- Conducted thorough Initial research, prototyping neural network flow, conceptualized POC, training, and monitoring of models, resulting in a 7% accuracy increase and reduced inference time by 2x.

PROJECTS

Search Engine for All file types - Sunhack Hackathon - Meta & Amazon Sponsored 3 Nov 2023 - 5 Nov 2023

- Converted and stored every file type data as vector embeddings, ensuring low-latency search capabilities.
- Used Machine Learning techniques such as BERT, OCR, ResNet50, and Image Captioning to parse Image features.
- Contributed to Elasticsearch implementation for blazing-fast search responses, with millisecond response times.
- Led Python FAST API and Angular development, providing efficient data access and retrieval.

Prompt Engineering Hackathon for Humanities 13 Oct 2023 - 15 Oct 2023

- Led SouL LLM Brews to 1st runner-up position in the "Prompt Engineering Hackathon for Humanities."
- Demonstrated a creative mindset in problem-solving, going beyond technical constraints.
- Crafted an AI persona, LLM Brews, to explore LLM's capabilities and create innovative collaborations between humans and machines.
- Spearheaded the exploration of AI storytelling tools, including ChatGPT, Bing Chat, Google Bard, Jasper.ai, Writesonic, etc.
- Conducted whiteboard sessions to brainstorm and strategize the use of LLM for extended storytelling.

- Developed Pro Tips for Prompting, optimizing LLM parameters for creativity, and experimenting with different ChatBots for diverse responses.
- Addressed limitations in narrative flow, simplicity, emotional depth, and hallucinations through innovative approaches.
- Collaborated with a team of AI personas, including an insightful Critic and a keen Book Reader, to enhance focused and productive discussions.
- Explored GenAI models, such as Runway, Midjourney, and DALL-E Open Ai, to add nuanced emotions and depth to the narrative.
- Presented ideas and work in a humorous manner, creating a compelling story for the protagonist character, Gunther, using AI.
- Successfully identified and addressed challenges in LLM's storytelling capabilities.
- Demonstrated the ability to navigate complex tasks and adapt to evolving requirements during the 17-hour hackathon.

Forest Fire Detection using IoT Sensor Data September 2021 - January 2022

- Devised a TabNet Classifier Model having 98.7% accuracy in detecting forest fire through IoT sensor data, deployed on AWS and edge devices 'Silvanet Wildfire Sensors' using technologies TinyML, Docker, Redis, and celery.
- Examine and utilize many performance metrics (Recall, F2 score, sensitivity, specificity. etc.) to reduce high type II error.
- Performed Model Exploration, Analysis, and Optimization.

Stock Market Analysis December 2018 - February 2019

- Conducted in-depth Exploratory Data Analysis (EDA) and utilized data visualization techniques for comprehensive stock market analysis.
- Implemented a range of statistical and ML models on diverse time-series stocks to extract insights and predictions.
- Improved performance by 27% on the "clustering and diversification analysis".

Autonomous Surveillance Monitoring System February 2019 - June 2019

- Built a surveillance engine to detect and alert about suspicious behaviors on campus by constructing a computer vision pipeline of CCTV footage data processing, face detection, poses & action recognition using OpenCV, MediaPipe, Tensorflow, MLFlow, and Flask.
- Deployed on college premises.

Speech Emotion Recognition November 2018 - February 2019

- Researched and optimized existing emotion detection approaches by combining CNN and LSTM networks.
- Discovered emotion-affecting attributes in voice by analyzing audio signal features-MFCC, ZCR, Pitch, and Chroma.
- Compressed audio data using an Autoencoder technique to avoid data loss.
- Boosted the accuracy of the speech model by 31%.
- Used tools like PyTorch, Librosa, puAudioAnalysis, and Tensorboard.

Homecoming: Animal Habitat Organization August 2018 - January 2019

- Developed a Custom Animal Identification and Classification model using Faster R-CNN architecture to identify animals and their habitats in a simulated environment.
- Integrated it into the Firebird V ATMEGA2560 Robot.
- Optimized the "Region Proposal Network" component resulting in 35% decrease in processing time.