Mihir Mangesh Pavuskar

Los Angeles, CA | (213) 691-9326 | pavuskar@usc.edu | linkedin.com/in/mihir-pavuskar-658337139| mihirp.netlify.app| GitHub

EDUCATION

Master of Science in Computer Science, Artificial Intelligence Dec 2024
University of Southern California 4.0

Bachelor of Technology in Computer Science and Engineering Aug 2022
Vellore Institute of Technology, Vellore 9.24

SKILLS

- Machine Learning / Artificial Intelligence: Tensorflow, PyTorch, NLP, Computer Vision, TFJS, Algorithms, SciKit Learn, C++
- Data Science: Data Structures, SQL, DynamoDB, MongoDB, Tableau, Hadoop, Spark, R, Python, Redis, Visualization
- Full Stack Development: ReactJS, NodeJS, Go, NextJS, Docker, AWS, APIs, CI/CD, Git, TypeScript, JavaScript, HTML, CSS

EXPERIENCE

Software Developer Frontend Sep 2022–Dec 2022
MURF AI, Bengaluru, India
- Implemented critical features in video/audio editing studio to enhance usability and make interface user friendly.
- Analyzed Google Analytics logs to identify and resolve bugs and devise fail-safes reducing crash rates by 40%.
- Optimized app for data intensive projects by applying UI virtualization and modifying data flow making app 5 times faster.
- Collaborated with Customer Success team to upgrade Google Analytics to GA4 while maintaining data consistency.

Natural Language Processing Researcher Feb 2022–Jul 2022
Deakin University, Geelong, Australia
- Developed an end-to-end Question Answering model for structured and unstructured financial data under Dr. Chetan Arora
- Researched best models such as TaPaS, AlBERT, HybridR, TagOp for each question type and finetuned PyTorch models on FinQA, financial dataset and HybridQA, hybrid datasets consisting of both tables and paragraphs.
- Combined various models to create an ensemble model achieve state-of-the-art accuracies on benchmark financial datasets such as FinQA, TAT-QA and test financial documents.

Full Stack Software Developer Intern Jan 2022–Apr 2022
Velozity Global Solutions, India
- Overhauled ECG monitoring dashboard by migrating from legacy code to NextJS boosting performance and ease-of-use.
- Visualized large amounts of patient data through multiple graphs through customized library built on top of ReactCanvas.
- Developed patient progress interface for doctors in React enabling multiple patients tracking simultaneously.

Student Research Intern Dec 2019–May 2020
Samsung, Bangalore, India
- Designed an Intelligent Text Normalization model for Automatic Speech Recognition systems used in Samsung products by leveraging XgBoost and BERT based language models and achieved accuracy of 99.7%.
- Generated slang dataset by scraping popular slang dictionaries and trained light-weight language models such as AlBERT using Tensorflow to normalize slang language by improving model accuracy by 4.4%.

PROJECTS

MorphVLM: Fine-tuning Large Multimodal Language Models on niche Domains Fall 2023
- Spearheaded project to advance performance and adaptability of VLMs on niche domains by substituting vision-language components with pre-trained LLMs such as BERT, GPT, LLaMA, Mosaic MPT, and CLIP ViT.
- Executed fine-tuning of Flamingo model through LoRA method on A-OKVQA and Pubmed datasets to attain 45.5% accuracy on VQAv2 dataset with minimal resource consumption, 60% smaller model size and 3 times faster convergence.

Pente Playing AI Agent Spring 2023
- Implemented leveraging alpha-beta pruning algorithm running at depth 5 with C++ capable of defeating Random, Minimax and Level 1 agent on pente.org.
- Improved performance by reducing search space and through optimizations like Forward Pruning, Move Ordering, etc.

See Food Fall 2020
- Built a "Shazam for Food" React app capable of identifying and classifying up to 500 dishes from uploaded pictures.
- Utilized TensorFlow ResNet model achieving 82.7% accuracy and converted to TensorflowJS model for deployment.

INVOLVEMENT

Co-Founder and Club Secretary, Comedy Club, VIT Dec 2020–Dec 2021
- Handled administrative tasks such as securing permission, reservation of spaces, submitting events and other paperwork.
- Managed human resources with 60 members through recruitment, work delegation, reviewing complaints, etc.
- Organized multiple events in restaurants and on-campus, both online and offline to great turnout.