Mihir Mangesh Pavuskar

(213) 691-9326 | pavuskar@usc.edu | linkedin.com/in/mihir-pavuskar-658337139 | mihirp.me

EDUCATION

University of Southern California **Los Angeles, CA**
Master of Science in Computer Science GPA: 3.95 | Dec. 2024
Relevant Coursework: Artificial Intelligence, Algorithm Analysis, Machine Learning, Natural Language Processing, Deep Learning

Vellore Institute of Technology **Vellore, India**
Bachelor of Technology in Computer Science and Engineering GPA: 3.82 | Aug. 2022

SKILLS

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

PROFESSIONAL EXPERIENCE

AI Software Developer Intern **Los Angeles, USA**
Tikr Media Aug. 2024 – Dec. 2024
- Develop machine learning models tailored for marketing automation and user acquisition, leading to increased campaign effectiveness and optimized customer targeting.
- Establish robust machine learning pipelines for large-scale data processing, ensuring efficient model training, deployment, and monitoring for various operational processes.
- Lead design and development of backend API and authentication systems supporting Marketing and User Acquisition models

Software Developer, Frontend **Bengaluru, India**
MURF AI Sept. 2022 – Dec. 2022
- 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, lowering crash rates by 40%.
- Optimized studio for data-intensive projects by applying UI virtualization and modifying data flow across ReactJS components and Redux, making app 5 times faster.
- Collaborated with Customer Success team to upgrade Google Analytics to GA4 while maintaining data consistency.

Natural Language Processing Researcher **Geelong, Australia**
Deakin University Feb. 2022 – July 2022
- Developed an end-to-end Question Answering model for structured and unstructured financial data under Dr. Chetan Arora.
- Researched, fine-tuned and benchmarked models like TaPaS, ALBERT, HybridR, TagOp on FinQA and HybridQA datasets.
- Created ensemble model achieving state-of-the-art accuracies on benchmark financial datasets such as FinQA and TAT-QA.

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

PROJECTS

Mesh2Splat: Deep Learning method to convert Meshes to Gaussian Splats Spring 2024
- Headed development of an end-to-end pipeline to convert 3D object representations such as point clouds and meshes to Gaussian Splats for efficient rendering.
- Leveraged pre-existing PointNet++ architecture reducing training time and achieved 93% accuracy on the splats generated.
- Introduced Objaverse-Splats, the first dataset of graphic shapes paired with high-quality Gaussian splats representation created utilizing Dream-Gaussian model.

MorphVLM: Fine-tuning Large Multimodal Language Models on niche Domains Fall 2023
- Spearheaded project to advance performance and adaptability of Visual Language Models 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.

Online 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.
- Devised memory efficient agent and compiled to web assembly to produce near native performance on client-side and deployed as a user friendly ReactJS app using Netlify.

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.