Atharva Yeola

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Education

University of California San Diego (UCSD) **September 2023 – Present**
Master of Science (M.S) – Machine Learning & Data Science *San Diego, USA*

Pune Institute of Computer Technology (PICT) **July 2019 – June 2023**
Bachelor of Engineering (B.E.) – Electronics & Telecommunication – ***GPA: 3.9/4.0*** *Pune, India*

Technical Skills

Programming Languages – Python, R, C++, Matlab, Javascript
Tools & Frameworks – Docker, AWS, CI/CD, Tableau, Linux, Git
Databases – MySQL, ETL, MongoDB, NoSQL, PostgreSQL
Machine Learning – PyTorch, TensorFlow, MLflow, Keras, LLMs, CUDA, Scikit-Learn, OpenCV, SciPy

Work Experience

Research Analyst *(paper under review at JAMA Int. Med.)* **July 2024 – Present**
Qualcomm Institute - UC San Diego Division of Calit2 *San Diego, USA*

- Examined 923,000 gambling addiction help-seeking searches across 38 states post-2018 Murphy v. NCAA, uncovering a 23% national increase. Tracked a $121.1B surge in wagers with corresponding spikes in addiction searches.
- Developed a predictive model using 828 HIV-related search terms, ensuring predictions were within ±5.2% of actual test sales. Identified 22 sales spikes, 68.2% coinciding with HIV awareness events, and a 6.47% decline during COVID-19.

Graduate Student Researcher **March 2024 – June 2024**
University of California San Diego *San Diego, USA*

- Developed and implemented a novel RNA image segmentation technique that achieved an Intersection over Union (IoU) greater than 70% across nearly 300 individual cells, facilitating more precise biological analyses and insights.
- Accelerated the segmentation algorithm by leveraging parallel GPU processing, decreasing the processing time by 300% and reduced CPU overhead by 19.5 hours for a dataset comprising 2.2 million molecules

Research Intern for Computer Vision *(paper accepted at CVMI 2024)* **December 2022 – August 2023**
Indian Institute of Technology (IIT) Patna *Remote*

- Tailored a Vision Transformer architecture specifically designed to address edge-case scenarios in self-driven vehicles, beating the state-of-the-art F1 score by 9%, and significantly enhancing the reliability and safety of autonomous driving systems in adverse conditions.
- Created a new dataset by utilizing advanced augmentation techniques to generate high-quality synthetic data, thereby expanding the dataset size to 100,000 images (30% increase), improving robustness of the model.

Machine Learning Intern **August 2022 – April 2023**
RhythmFlows Solutions Pvt. Ltd *Pune, India*

- Trained a music recommendation engine using content-based filtering and deployed it using AWS Sagemaker, boosting relevant recommendations by 33%. Designed a feedback loop for continuously updating weights to maintain the algorithm's preciseness.
- Reduced document processing time by 7 seconds per document by utilizing Pytesseract OCR for electronic receipt scanning, and revamped the data analysis pipeline, minimizing human effort by 30%.

Machine Learning Intern **January 2022 – June 2022**
Atomic Loops *Pune, India*

- Spearheaded a team of three in training a YOLOv5 food detection model achieving 98% precision and then smoothly integrated it with a CCTV surveillance network.
- Collaborated with the data platform team to construct preprocessing pipelines, facilitating a notable 20% acceleration in project delivery rate.

Projects

End-to-End Text Summarizer | *Transformers, NLP, GitHub Actions* **July 2024 – July 2024**

- Built a text summarizer for concise summaries, managing the entire workflow from configuration to deployment.
- Automated CI/CD with AWS and GitHub Actions, handling Docker, EC2, ECR, and runner setup.

Retail Vision Enhancement | *YOLOv8, SuperGlue, Docker* **February 2024 – February 2024**

- Implemented YOLOv8 for object detection, achieving over 90% accuracy in labeling on-shelf retail products.
- Utilized SuperGlue for precise product identification, and created a Dockerfile to ensure cross-platform reproducibility.