

# ATHARVA YEOLA

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## EDUCATION

### University of California San Diego (UCSD)

Master of Science (M.S) – Machine Learning & Data Science

September 2023 – Present

San Diego, USA

### Pune Institute of Computer Technology (PICT)

Bachelor of Engineering (B.E.) – Electronics & Telecommunication – GPA: 3.9/4.0

July 2019 – June 2023

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

### Summer Research Analyst (\*both studies under review at JAMA Int. Med.)

July 2024 – Present

Qualcomm Institute - UC San Diego Division of Calit2

San Diego, USA

- \*Authored a comprehensive analyses on public health trends, examining 923,000 gambling addiction help-seeking searches post-2018 Murphy v. NCAA, revealing a 23% national increase and correlating with a \$121.1B surge in wagers.
- \*Co-authored the development of a predictive model for HIV-related search trends across 828 terms, achieving predictions within  $\pm 5.2\%$  of actual test sales, identifying 22 sales spikes (68.2% aligned with awareness events).
- Leading the migration of XLM-based multilingual text classifiers to XLM-RoBERTa for the tool - TobaccoWatcher.

### 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

- 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.
- Tailored a Vision Transformer architecture to address edge-case scenarios in traffic sign detection, beating the state-of-the-art F1 score by 9%.

### Machine Learning Intern

August 2022 – April 2023

RhythmFlows Solutions Pvt. Ltd

Pune, India

- Conducted A/B testing to compare the effectiveness of content-based filtering against collaborative filtering in a music recommendation engine, resulting in a 33% boost in relevant recommendations. Deployed the content-based model on AWS Sagemaker with continuous weight updation for improved performance.
- 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.