

# Ahmad Mustafa Anis

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## EDUCATION

### International Islamic University

Islamabad, Pakistan

*Bachelors of Science in Computer Science*

*September 2018 – September 2022*

- Key Courses: Advanced Computer Programming, Object Oriented Analysis and Design, Data Structures and Algorithms, Operating Systems, Database Technologies, Artificial Intelligence, Parallel & Distributed Computing

## EXPERIENCE

### AI Research Fellow

Sep 2024 – Current

*Fatima Fellowship*

- Working on multi-modal RAG for medical domain that can self-improve, advised by [Dr. Wei Peng](#) from Stanford University

### Deep Learning Engineer

Mar 2024 – Current

*Roll AI*

- Architected a multimodal LLM Agent as a centralized AI video editing system, automating social media clip generation, multi-take video orientation/cropping, transcript correction and enhancement, and dynamic VFX/motion graphics creation to streamline post-production workflow.
- Optimized real-time video bokeh effects by implementing Monocular Depth Estimation and Human Matting algorithms, achieving 2x performance improvement through parallel processing and batch optimization for live streaming applications
- Deployed Active Speaker Detection (LightASD) system for multi-camera live events, automating speaker-camera associations and reducing event video editing time from 48 hours to 1 hour (98% improvement)

### Machine Learning Engineer

April 2022 – Mar 2024

*Red Buffer*

- Created a fact verification and identification pipeline, integrated multi-threading for a 200% speed increase, fine-tuned LLaMAv2, Dolly-3B, GPT-Neo, and BART for negation generation to search for false news.
- Improved OCR latency from 0.6 FPS to 16 FPS on the CPU for streaming devices to blur sensitive information.
- Boosted Accuracy to 85% from 30% for logo recognition during cricket matches using CLIP by OpenAI.
- Developed a drag and drop RAG system which can be used with any LLM, vector DB, and multi-hop search.

### AI Fellow

December 2023 – February 2024

*PI School of AI*

- I was selected (10 in 300 applicants) from all over the world to turn with fellowship worth 12,500€ where I worked on extracting key information from long context interview transcripts using LLMs (**MistralLite**, **Mixtral8x7B**). Worked on RAG using [DSPy](#).

### Software Engineer (Deep Learning and Computer Vision)

Dec 2021 – March 2022

*WortelAI*

- Created a real-time search engine for videos using CLIP by OpenAI, Qdrant for Vector DB, and ElasticSearch.
- Performed Multi-label Text Classification using BERT and PyTorch for 1500+ labels.

### Deep Learning and Computer Vision Intern

July 2021 – Dec 2021

*WortelAI*

- Developed Safety Clothes Detection for Factory workers using YOLOv5.
- Trained a Celebrity Detection and Classification system using 3DDFAv2, ResNet50, and a 172GB Dataset.

### Contributing Editor

Sep 2020 – July 2021

*KDNuggets*

- Wrote 21 original ML articles, accumulating over 500,000 views, [Profile Link](#)

## TECHNICAL SKILLS

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**Programming Languages:** Python, C++, Rust, Java, JavaScript

**Libraries/Frameworks:** PyTorch, Tensorflow, PyTorch Lightning, Distributed Training, OpenCV, Flask, FastAPI

**Databases:** MySQL, PostgreSQL

**Tools:** Git, GitHub, GitLab, Docker, Markdown, Jupyter Notebook, Anaconda, Visual Studio Code, Pep8

## PUBLICATIONS

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- **A. M. Anis** *On the Limitations of Vision-Language Models in Understanding Image Transforms*, Targeting **CVPR 2025 workshops** [Paper].
- S. Longpre, N. Singh,... **A. M. Anis**(11th Author), et al. *Bridging the Data Provenance Gap Across Text, Speech, and Video*. **ICLR 2025**.
- S. Longpre, R. Mahari,... **A. M. Anis**(16th Author), et al. *Consent in Crisis: The Rapid Decline of the AI Data Commons*. Presented at **NeurIPS 2024**. [Paper]

## SELECTED PROJECT

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### DistAYA

- [AYA Expedition](#) project, creating small multilingual LLMs distilled from large multilingual LLMs, [Hugging Face](#)

## VOLUNTEER EXPERIENCE

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### Research Contributor | [Data Providence Initiative](#) | MIT Media Lab

Dec 2023 – Present

- Auditing LLM training data to assess web data access shifts, cultural representation and advocating for transparency.

### Volunteer Researcher & Regional Community Lead | [Cohere for AI](#)

Nov 2022 – Present

- [Organized over 50 guest speaker sessions with Asian researchers from top universities and institutes](#).
- Initiated NYU Deep Learning study group (Prof. Yann LeCun).
- Urdu Language lead for AYA, a Multi-Lingual model by Cohere. Contributed 3 Urdu datasets for AYA collection.

### Mentor | [MESA program at Foothill College](#) | [MESA@Foothill](#)

Jan 2024 – Present

- Providing mentorship to underrepresented students in STEM at Foothill College .

### Fellowship Lead | [Bytewise Limited](#)

- NLP Lead (Jun-Aug 2024): Mentoring 20 students, supervising the NLP curriculum.

### AWS Community Builder | [Amazon Web Services](#)

Aug 2022 – Apr 2023

- Organized events to raise awareness about AWS services in local community.

## INTERVIEWS , PODCASTS, BLOGS & TECHNICAL WRITING

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[Interview with AtomCamp](#) providing advice for beginners in Machine Learning.

[Podcast with Adventures in Machine Learning](#) on how to optimize and improve **OCR** systems

[Podcast with Adventures in Machine Learning](#) on how to deploy Deep Learning models with **FastAPI**

[Medium](#), [KDNuggets](#), [CNVRG](#)

## CERTIFICATIONS & ACHIEVEMENTS

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### Courses & Certifications:

- Microsoft Technology Associate (MTA) 98-381 Introduction to Programming Using Python
- Machine Learning by Coursera
- Deep Learning Specialization by Coursera
- Getting Started with TensorFlow 2 by Coursera
- NYU Deep Learning by Yann LeCun
- Mathematics for Machine Learning by Imperial College London

### Achievements:

- [2600+ points on StackOverflow](#), impacting 300k+ people
- [5 kyu, top 36% worldwide at Codewars](#)
- [Platinum badge on KDNuggets](#)