

Ashish Rai

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Education

NYU Courant

May 2025

Masters in Computer Science

National Institute of Technology, Warangal

May 2018

Bachelor of Technology in Electrical & Electronics Engineering – 7.84 / 10.0, *Institute Merit Scholarship*

Delivered sessions on Intro to Machine Learning to undergraduate students

Projects

NYU Courant

simpleqa-hf

Nov 2024

- [OpenAI SimpleQA](#) evaluation for HuggingFace models

A vision based approach to ARC-AGI

Oct 2024 – (in-progress)

- Trying vision and multimodal models to make advancements on the [ARC-AGI challenge](#).

Length generalization of arithmetic performance of LLMs

Oct 2024 – Dec 2024

- Blog post: [link](#)

Human vs Machine Attention in Visual Question Answering

April - May 2024

- Given a picture and a question, predict the answer and compare attention in human vision and across different vision models (conventional VQA vs transformer based models)
- Metrics: AUC, IOU, PCC (Quantitative), Saliency Maps (Qualitative)

Ideas & Technologies: Multimodal Language Models, Transformer Explainability, Saliency Maps

Self-supervised stochastic conditional video prediction

November - December 2023

- Given a set of context frames, predict the next set of frames of videos
- Done as part of the final project for CSCI-GA 2572 course - Deep Learning

Ideas & Technologies: ConvLSTM, Variational Autoencoders, Transformers, Pytorch, DDP, HPC, Slurm

VMware

Source code to Resource consumption using ML

September 2019

- Predict initial resource (CPU, memory) consumption before an application is deployed using source code analysis; **agnostic** of the programming language

Skills & Technologies: n-grams, PCA, Support Vector Machine

Effective code reviews with Machine Learning

March 2019

- Improve review-to-merge time by suggesting possibly linked files for a code review (file associations determined using apriori algorithm)

Skills & Technologies: Data mining, Recommender systems

Experience

NYU

Graduate Assistant - NYU Vital

January 2024 – May 2025

- Responsible for development and maintenance of the [NYU Vital Platform](#) (Private Cloud for assignments).

VMware

📍 Bengaluru, India

Member of Technical Staff – Performance Engineer

July 2018 – July 2023

Made VMware's HyperConverged storage solution (vSAN) performant

- **Optimised resource consumption** (CPU, memory) and improved performance of vSAN storage stack
- Worked on and fixed multiple customer performance bugs in **on-prem** and **cloud** environments
- Lead and executed IO path **performance characterization** for many product feature proposals
- Contributed to in-house performance frameworks (Python, Java, Angular, Django, SQL)

Skills: Distributed storage systems, Optimization techniques, Performance characterization, Linux, VMs

Internships

Arya.ai

📍 Mumbai, India

Applied Deep Learning Researcher Intern

May 2017 – July 2017

- Worked on classification of satellite images using Deep Neural Architectures ([link](#))
- Contributed to a data type agnostic multi-threaded data pre-processing pipeline 🐙

Skills: TensorFlow, Keras, LMDB, Protocol Buffers, Twisted Server

Banyan Nation

📍 Hyderabad, India

Applied IoT Intern – Intel & DST IFDI Challenge 2.0 (*finished in top 3 – link*)

Dec 2016 – Feb 2017

- Contributed to the development of smart dustbin sensors (based on Intel Edison) to track garbage level
- Contributed to Analytics and Visualization dashboards (MEAN stack)

Skills & Languages

Programming Languages & Frameworks: Python, Pytorch, Java, SQL, LaTeX, Angular, Django

Deep Learning Skills: Pytorch, HuggingFace, DDP, Slurm

Skills: Virtual Machines, Cloud (AWS), Distributed Computing, Teaching

Spoken languages: English (Proficient), Hindi (Proficient), Spanish (Basic)

Online Courses

Foundations of Private Computation, OpenMined

June 2023 – Present

Deep Learning for Computer Vision, Stanford University (CS231n)

March 2017

Machine Learning, Stanford University (CS229)

January 2017

Awards & Honours

Institute Merit Scholarship

2015

Nominated to attend DST INSPIRE Internship Camp (Top 2 in a group of ~500)

2012

Volunteering

City Manager – Shelter Operations Fellow, Bangalore

May 2020 – August 2021

Academic Support Volunteer

July 2019 – March 2020