Gaurav Batra

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EDUCATION

Masters of Science in Computer Science Madison, WI | 2024-2026
University of Wisconsin-Madison

B-Tech (Honours) in Computer Science And Engineering Hyderabad, Telangana | 2017-2021
IIIT, HYDERABAD (CGPA: 9.48/10)
Teacher Assistant (TA):

- Probability and Statistics (MA6.101) under Prof. Girish Varma;
- Deep Learning - Theory and Practices (CS7.601) under Prof. Naresh Manwani

WORK EXPERIENCE

CAI TECHNOLOGIES | AI Platform Engineer Bengaluru, India | June 2021 - July 2024

- Part of the core team **responsible for maintaining and adding functionality to the Couture.ai Platform**, an MLOps platform focused on solving the operationalization of AI/ML at scale. Engineered scalable AI/ML solutions, **reducing model deployment time by 40% and improving inference speed by 20%.**
- **Spearheaded the platform's first U.S. client onboarding**, ensuring seamless on-prem deployment over a four-month period.
- **Upheld standards for timely software releases** with rigorous testing and continuous integration. **Mentored two interns and contributed to the successful deployment of the platform.**

NVIDIA | Software Engineer Intern Pune, India | April 2020 - June 2020

- **Engineered a TensorFlow-based Convolutional Neural Network (CNN) in Python for optimized image compression**, inspired by the research paper **Better Compression with Deep Pre-Editing.** Achieved a **15% improvement in PSNR scores** and a **10% increase in SSIM metrics**, outperforming traditional JPEG methods.
- **Reduced bits-per-pixel** for video encoding, ensuring consistent frame rates even under limited bandwidth conditions. Conducted rigorous experiments and evaluations, leading to model improvements and a **final presentation that received acclaim from senior team members.**

MACHINE LEARNING LAB | Undergraduate Researcher Hyderabad, India | May 2019 - August 2021

- Engaged in cutting-edge **research under the guidance of Prof. Naresh Manwani**, exploring advanced AI and machine learning methodologies.
- Co-authored a research paper titled **Multiclass Classification under bandit setting with dilute feedback** that was **accepted for publication in PRICAI'21.**

PROJECTS

PARALLELIZED ALGORITHMS Spring, 2020 | C++, Erlang
Parallelized versions of QuickSort and BellmanFord algorithms: The algorithms were implemented in C++ using the OpenMPI library.
Parallel version of Merge sort Algorithm: The algorithms were implemented in Erlang.

AI BOT Spring, 2019 | Python
Implemented **Minimax** algorithm along with **Alpha-Beta pruning** to built a **bot** which is able to play ultimate tic tac toe (a modified version of Tic Tac Toe). **Qualified for semi-finals in the bot competition where 72 teams participated.**

SCALABLE WEB CACHE Spring, 2019 | Python
Built a **miniature scalable web cache** for distributed setting using consistent hashing which handles simultaneous requests from multiple clients.

SKILLS

Programming Languages: Python, C++, Bash, sed, AWK, SQL
Software Skills: Fastapi, Flask, Docker, Kubernetes, PostgreSQL, LaTeX, Redis, MATLAB, Celery, Istio Service Mesh
ML and DL Tools: Tensorflow, Pytorch, Pandas, NumPy, Scikit-Learn

ACHIEVEMENTS

Dean's List Awardee for being top 5% performer in class for 8 consecutive semesters.
Secured a perfect **10.0** Semester Grade Point Average **(SGPA)** in the Spring semester of 2020.
Secured a score of **323/340** and **113/120** in the GRE and TOEFL respectively.