Gaurav Batra

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EDUCATION

IIIT, HYDERABAD

B-Tech (Honours) in Computer Science And Engineering
CGPA: 9.50/10.0
Expected May 2021
Hyderabad, India

SKILLS

PROGRAMMING

Proficient and Experienced in: C++ • Python3 • C
Familiar with : MATLAB • Javascript • MySQL • Git • HTML5 • CSS • Flask • Golang

SOFTWARE AND TOOLS

TensorFlow • Pytorch • Bash • ReactJS • OpenGL • Neo4J • LaTeX

COURSEWORK

• **Programming Courses** Introduction to Computer Programming, Data Structures and Algorithms.

• **Research Related Courses** Statistical Methods in Artificial Intelligence, Topics In Machine Learning, Deep Learning.

• **Mathematics Courses** Probability and Statistics, Probabilistic Graphical Models, Discrete Structures.

• **Other Courses** Operating Systems, Computer Networks, Computer System Organization, Digital Signal Processing, Distributed Systems.

POSITIONS

• **Teaching Assistant** under Prof. Girish Varma for the course **Probability and Statistics** (MA6.101).

CODING PROFILE

• **Username** suzaku_kuru .
• **Codeforces** : Max Rating - 1532
• **Codechef** : Max Rating - 1871
• Participated in **Facebook Hackercup** in 2018, 2019 and qualified till Round 1.
• **Google Kickstart** : Best Rank **1504** .

ACHIEVEMENTS

• **Dean's List Awardee** for being top 5% performer in class for 6 consecutive semesters.

EXPERIENCE

NVIDIA | Software Engineer Intern

April 2020 - June 2020 | Pune, India

- Worked at Nvidia, as a **Software Intern in the Cloud gaming (GeForce) Team** . My work revolved around **designing a Convolutional Neural Network that can prefilter images as a pre-processing step before compression** .
- This Network can be used to preprocess video frames before encoding to reduce the bits-per-pixel required.

MACHINE LEARNING LAB | Undergraduate Researcher

May 2019 - Present | IIIT, Hyderabad | Advisor: Prof. Naresh Manwani

- Currently working on designing algorithms for **Multiclass Classification under bandit setting with dilute feedback** , taking inspiration from the popular **Banditron** algorithm.

VIRTUAL LABS | Research Intern

November 2018 - December 2018 | VLEAD, Hyderabad, India

- Developed full fledged experiments and interactive artefacts in JavaScript and Python for various data structures and algorithms at The Virtual Labs, a social initiative of the Government of India.

PROJECTS

LINUX SHELL | Operating Systems | C

- Implemented a Linux Bash Shell , a command line interpreter in C.
- It supports a number of bash commands along with piping, redirection, foreground and background processing.

SCALABLE WEB CACHE | Distributed Systems | Python

- Built a miniature scalable web cache for distributed setting using consistent hashing which handles simultaneous requests from multiple clients.

REINFORCEMENT LEARNING | Topics In Machine Learning | Python

- Implemented simple Dynamic Programming algorithms like Policy and Value Iteration on MDP based environments.
- Used Monte-Carlo Methods and Temporal Difference Learning to observe learning on a couple of games and toy problems.

FACE CLASSIFICATION | Machine Learning | Python

- Trained various learning models on a dataset of real and animated face images by applying different feature transformations and analysed the classification results.

GAME DESIGN | Graphics | Python, JavaScript, C++

- Built a 2D arcade game and 3D flight simulator game in **OpenGL 3.0** using texture mappings, projections and lighting. The game supports multiple camera views for a great gameplay.
- Built a browser game inspired from Subway Surfers using **WebGL** .

AI BOT | Introduction to Artificial Intelligence | 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.