

Yash Bhartia

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Education

Birla Institute of Technology and Science, Pilani

Goa, India

B.E. IN COMPUTER SCIENCE

August 2019 - May 2023

- **Relevant Coursework:** Linguistics, Object Oriented Programming, Data Structure and Algorithms, Database Management Systems, Probability and Statistics, Computer Programming

Projects

Flipkart Categorizer

Natural Language Processing

[Github](#)

April 2021

- A transformer (XLNet) based multi-class classifier to predict Category of item given item description. Cleaned data, visualized using Seaborn plots, and fixed class imbalance using class weights.
- model gave F1 score of .74 on validation set

Rainbow RL Implementation

Reinforcement learning

[Github](#)

December 2020

- Built a Deep Q network based agent to play Atari games in OpenAi gym environment using PyTorch
- model trained for 400 episodes wins all 21 points for pong in test

Reddit Flair Detection

Natural Language Processing

[Github](#)

July 2020

- Implemented a LSTM+Attention model using PyTorch and torchtext to classify Reddit posts into its appropriate flairs
- model achieves an F1 score of 0.55 on validation set

Pokebattle

Reinforcement Learning

[Github](#)

August 2020

- Built an agent based on DQN network to play and win games against a fixed algorithm.
- Finished the Pokemon Battle environment, implemented a more flexible algorithm, added data for various moves and Pokemons scrapped and cleaned from multiple sources.

Procedural Dungeon Rooms

Unity based Algorithm

[Github](#)

April 2020

- A reusable asset to generate dungeon rooms procedurally in Unity
- Algorithms used: Delaunay triangulation, Minimal tree spanning and optimizations like grid correction
- App can generate rooms and interconnected corridors entirely from scratch, taking up to a few minutes for each generation

Particle Vfx

Game effect

[github](#)

August 2020

- Reusable and editable effects: fireflies, lightning, fire
- Made only using unity's particle system and 2d lighting

Quantum Chess

Quantum Computation

[Github](#)

February 2021

- Open source Quantum Chess implementation, made with Qiskit, hichesslib, and Qt
- Implemented functions like entangle, split and measure for the quantum chess pieces

Publication

LRG at SemEval-2021 Task 4: Improving Reading Comprehension with Abstract Words using Augmentation, Linguistic Features and Voting

SemEval

MENTOR: Tirtharaj Dash

2021

Abheesht Sharma*, Harshit Pandey*, Gunjan Chhablani*, **Yash Bhartia**, Tirtharaj Dash

[Arxiv](#), [Code](#)

NLRG at SemEval-2021 Task 5: Toxic Spans Detection Leveraging BERT-based Token Classification and Span Prediction Techniques

SemEval

MENTOR: [Shan Suthaharan](#)

2021

Gunjan Chhablani*, Abheesht Sharma*, Harshit Pandey*, **Yash Bhartia**, Shan Suthaharan

[Arxiv](#), [Code](#)

Teaching Experience

Introduction to Machine Learning and Deep learning

INSTRUCTOR

January 2021 - Present

- Responsible for delivering lectures on PyTorch, Computational Graphs, Neural Nets and Natural Language processing to 70 students and mentoring their final project for the course

Introduction to Game Development and XR

MENTOR

January 2021 - Present

- Responsible for mentoring lectures on game development in Unity and modeling Blender for over 10 students and mentoring their final project for the course

Skills

Frameworks Numpy, Scikit, PyTorch, Linux, Unity, Blender

Tools Vim, GIT, MySQL

Languages Python, JAVA, C#/C++, SQL, LaTeX

Committees

DevSoc Game Development Vertical Head of Developer's Society (DevSoc - BITS Goa)

SAiDL Core Member at the Society for AI & Deep Learning (SAiDL - BITS Goa)

LRG Core Member at the Student Language Research Group (LRG - BITS Goa)

Abhigyaan Batch head for Abhigyaan organisation, educating the unprivileged