Yash **Bhartia**

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Yash Bhartia

Education

Birla Institute of Technology and Science, Pilani   *Goa, India*

B.E. IN COMPUTER SCIENCE   *August 2019 - May 2023*

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

Projects

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

Dots and Boxes   *Multiplayer Games*

Github   *February 2020*

- 2 multiplayer games; Tic-Tac-Toe and Dots and boxes made in unity, made using Firebase and Rest Client for Unity
- The game connects the device to another device playing the same game

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

Wizards and knights   *2D Platformer*

Itch.io link   *June 2020*

- Demo Platformer game made in unity with puzzles, fighting, and platforming challenges
- Implemented better shadow for sprites, along with buoyancy and other effects
- Played by more than 60 people

Particle Vfx   *Game effect*

github   *August 2020*

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

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 classifies 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.

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*, **Yash Bhartia***, Abheesht Sharma*, Harshit Pandey*, 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

Skills

Frameworks	Numpy, Scikit, PyTorch, Linux, Unity, Blender
Tools	Vim, GIT, MySQL
Languages	Python, JAVA, C#/C++, SQL, LaTeX

Committees

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)
DevSoc	Core Member at the Developer's Society (DevSoc - BITS Goa)
Abhigyaan	Batch head for Abhigyaan organisation, educating the unprivileged