

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:** Deep Learning, Foundations of Data Science, Probability and Statistics, Linguistics, Data Structure and Algorithms, Cognitive Neuroscience, Object Oriented Programming, Database Management Systems, Compiler Construction

Experience

Prodapt Solutions

Remote

SOFTWARE DEVELOPMENT INTERN

May 2020 - July 2020

- Built a Pre-onboarding application for new recruits
- Automated the application to schedule meetings, send emails, and manage the database dynamically according to date of joining and HR inputs

CSIS Department, BITS Pilani

Goa, India

TEACHING ASSISTANT

May 2020 - July 2020

- **CS F429 Natural Language Processing** - Conducted tutorial for the course and mentored over 85 undergraduates **Supervised by** Dr. Swati Agarwal

Select Projects

Tetris Language Compiler

Programming Language Design

[Github](#)

April 2022

- Designed a programming language to make Tetris Game and its Variants, running on terminal
- Implemented the compiler and grammar for the language

Wizards and knights

2D Platformer

[Itch.io link](#)

June 2020

- Published 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

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

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

RPG Level Browser Demo

2.5D RPG Scene

[Itch.io link](#)

February 2021

- Illustrated simple level design and fighting combos using on state machine.
- Used Unity to Make the game demo, complete with Sound design and dynamic lighting.
- Played by more than 70 people, playable in browser.

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.

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

Drug Design using Molecular Generation

Natural Language Processing

FORMAL PROJECT, APPCAIR

August 2021 - Dec 2021

- Leveraging Generative NLP models to assist Drug Design techniques
- **Supervised by** Dr. Ashwin Srinivasan

Skills

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

Tools VsCode, Vim, GIT, MySQL

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

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](#)

Leadership and 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)

CTE Instructor, Introduction to Machine learning and Deep learning

Quark Instructor, Deep Learning project

Abhigyaan Batch head for Abhigyaan organisation, educating the unprivileged