NIKITA AGARWAL

B.Tech CSE Undergraduate

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EXPERIENCE

Human-AI Teaming
Guide: Dr. Shashi Shekhar Jha

◉ B.Tech Project with Accenture Technology Labs

- Formulate a **multi-agent single human teaming** problem with codependency to achieve a common goal with the aim of increasing the **team utility**. Developed and tested suitable use case to capture teaming aspects of human with AI agents.

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22X7 Dashboard

◉ DC Office, Punjab

- Developed a fully functional interactive dashboard for state administration.
- **Real-time graphing and Analysis:** Time Interval Filtering, region filtering and many other data-specific options to analyse data pictorially.
- **Department and Rank System:** Departmental heirarchy with Covid-19, Judiciary, Police and Schemes dashboards, with rank based user access to different parts of Dasboard.

PROJECTS

Emotion based Music Generation using Reinforcement Learning

- Keras, Tensorflow
- Used an **LSTM**, trained on music files partitioned according to variance and arousal to generate music sequences.
- Achieved results with **Q-learning**, **G-learning** and $psi-$ **learning** with $epsilon-$ **greedy** and **Boltzmann exploration** for Happy and Sad emotions with a tailored **reward function** based on Music Theory.

Microsoft Engage 2020

-Javascript
- Developed a Path Finding Web based Application, supporting various algorithms like **A***, **IDA* and Best First Search** amongst others.

Pipelined RISC-V ISA Simulator

-C++
- Final Course Project of Computer Architecture Course
- Developed pipelined RISCV-ISA simulator for **parallel instruction execution with dataforwarding, bit prediction and inter-state caches.**

COURSES

Computer Science: Introduction to Computing, Data structures, Digital Logic Design,Computer Architecture, Programming Paradigms, Digital Image Processing, Databases, Algorithms, Operating Systems, Reinforcement Learning, Software Engineering, Computer Networks, Theory of Computation
Mathematics: Calculus, Linear Algebra, Differential Equations,Discrete Mathematics, Probability and Statistics.
MOOCs: CS231n Convolutional Neural Networks for Visual Recognition(Stanford University)

EDUCATION

B.Tech in Computer Science and Engineering
IIT Ropar

📅 2018-Present | CGPA: 8.91

XII Boards
CBSE

📅 2016-2018 | 94.3%

TECHNICAL SKILLS

Languages

C++ CSS Python Verilog Javascript Java

Libraries

Keras Tensorflow Matplotlib Pandas OpenAi Gym

Tools and Other Skills

Matlab React.js git Latex Flask Django PostgresSQL

POSTITIONS OF RESPONSIBILIY

- ### Coordinator @ BOST Coding Club
  📅 2017-2018

  Took sessions, explaining C++ concepts and organised intracollege coding contests.

- ### Member @ AI Community
  📅 2018-Present

  Participated in several paper discussions.

- ### Logistics Head @ TedXChowrasta
  📅 2020-2021

  Was responsible for sponsorship, organisation and coordination of the event.

- ### Former Member @ Debating Club
  📅 2018-2020

  Qualified as Panel Adjudicator in the InterIIT Debating Competition,2018
  Participated in Debutant, 2018

MISCELLANEOUS

Hackathons	**Smart India Hackathon 2020** **HackNagpur 2021**
Merit Prize	Got Merit prize for **academic excellence** for 5 semesters
JEE Advanced,2018	Secured **98.36 percentile**
JEE Mains,2018	Secured **99.7 percentile**
Volunteering	WomenTech Network
Hobbies	Debating, blogging and photography