NIKITA AGARWAL

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EDUCATION

Examination	Institute/Board	Year	Current CGPA/%
UnderGraduate Specialization	*Computer Science and Engineering*		
Graduation	IIT Ropar	2022	8.91
XII Boards	CBSE	2018	94.3
X Boards	ICSE	2016	96.6

TECHNICAL SKILLS

Languages:	C++	CSS	Python	Verilog	Javascript	Java	
Libraries:	Keras	Tensorflow	Numpy	Matplotlib	Pandas	OpenAi Gym	
Tools and other Skills:	Matlab	React.js	git	Latex	Flask	Django	PostgresSQL

WORK EXPERIENCE

- **Human-AI Teaming** ***-B.Tech Project with Accenture Technology Labs***
  Guide: Dr. Shashi Shekhar Jha
  - 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.

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.
- **22X7 Dashboard** ***-Flask, PostgresSQL***
  - 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.
- **Microsoft Engage 2020** [github] ***-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** [github] ***-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.**

RELEVANT COURSES

Computer Science: Introduction to Computing, Data structures, Digital Logic Design,Computer Architecture, Programming Paradigms, Digital Image Processing, Databases, Algortithms, 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)

POSITIONS OF RESPONSIBILITY

Coding Club:	Coordinator
	Took sessions, explaining C++ concepts and organised intracollege contests
AI Commnunity:	Member
	Participated in several paper discussions
TedXChowrasta:	Logistics Head
	Was responsible for sponsorship, organisation and coordination of the event.
Debating Club:	Former Member
	Participated in the InterIIT Debating Competition,2018

MISCELLANEOUS

Academic	Secured **98.36 percentile** in JEE Advanced,2018 and **99.7 percentile** in JEE Mains,2018
Hobbies	Debating, blogging and photography