Avni Mittal

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ACADEMIC DETAILS

Degree/Examination	Institute/Board	Year	CPI/%
5th Semester, Semester Exchange, B.Tech CSE	TU Darmstadt	2022 - 2023	9.71
3rd Year, B.Tech Computer Science and Engineering	IIT Mandi	2020 - Present	8.88
Higher Secondary Education	SRDAV Dayanand Vihar, Delhi (CBSE)	2020	95.8%
Secondary Education	SRDAV Dayanand Vihar, Delhi (CBSE)	2018	97.6%

RELEVANT COURSES

- Data Structures and Algorithms, Linear Algebra, Applied Database Practicum, Data Science I, Data Science II (Probability and Statistics), Data Science III (Machine Learning), Signals and Systems, Information and Database systems, Computer Organization, Formal language and Automata Theory, Computer Vision, Learning Robots, Probabilistic Graphic Models

TECHNICAL SKILLS

- **Languages :** Python, C++, Javascript, PHP, Java
- **Frameworks/Other Tools :** MySQL, MongoDB Git, HTML, CSS, node.Js, Tensorflow, Keras, OpenCV, Django, SpringBoot

EXPERIENCE

- **Clone Test Accounts, Intuit India, SDE Intern** (Development Project) | *2023* | *SpringBoot* | *Java* | *Kubernetes*
  - Analysed, implemented and deployed complete feature migration for cloning test accounts for TurboTax.
  - Integrated with multiple downstream services for advanced cloning features, conducted unit tests and Karate tests.

- **Explainable-AI, TU Darmstadt - Student Assistant** (Research Project) | *2023* | *Python* | *Explainable-AI* | *Pytorch* | *Tensorflow*
  - Analyzed and implemented explainable AI methods and research papers.
  - Comparing the performance of XIA methods on adversarial images

- **FIT-GAME, IIT Mandi - Research Intern** (Development Project)   GitHub | *2021* | *Python* | *Scartch* | *Node.js* | *Pose Detection*
  - Developed a Gamified Fitness Platform where users have to perform yoga poses to unlock playing games.
  - Worked on model development for Pose detection and created a web-application for the Project
  - Selected in the top 10 teams for ACM-W National Hackathon 2021
  - Developed a classifier for yoga poses using LSTM and LRCN models, implemented using TensorFlow and Keras

- **Evaluating Human Reinforcement Learning in complex Environment, IIT Mandi - Research Intern** (Research Project)
  2022 | *Reinforcement Learning* | *Unity3D* | *Machine Learning*
  - Developed the human playing version of games by ML agents and analysed Human performance.
  - Data collection for subproject during the fellowship to develop LSTM models will be applied to recordings of humans playing games in order to use reinforcement learning to predict the next move.

- **UGAC Project Portal** (Development Project)   GitHub | *2022* | *Django* | *Python* | *HTML* | *CSS* | *Javascript*
  - Developed a portal to allow IIT Mandi professors and students to work together on projects under the Academic Council.

PROJECTS

- C-Arm Orientation Tracking -Developed Analytical and ML method for C-arm orientation tracking to optimize surgical flow. Performed Data collection, segmentation, development, and testing of ML models and completed pipeline *2023* | *Python* | *Object Detection* | *Medical Machine learning*
- Racing Game AI - Racing car game implementd using PyGame developing reinforcement learning algorithm using Deep Q Learning in Pytorch. *2022* | *Python* | *Reinforcement Learning* | *PyTorch* | *TensorFlow* | *PyGame*   GitHub
- BOSCH'S Gender and Age Detection - Developed an algorithm employing ESRGAN, Deepface, ImageAI, and Resnet models to identify the gender and age of humans in CCTV surveillance videos. *2022* | *Resnet* | *ESRGAN*   GitHub
- Credit Management System for IIT Mandi students *2021* | *Node.js* | *MongoDB* | *HTML* | *Git*   GitHub

ACHIEVEMENTS

- 2nd Position among second year students for Fakathon (Fake Face classification) in Utkarsh'21
- 2nd Position in Hack36 Hackathon organised by IIT Mandi.
- 1st Position in ATLAS (Astrathon conducted by Space Cell of IIT Mandi) in Utkarsh'21
- 1st Runner up in Vision Arcadia- Made automated Restaurant using Hand gesture detection through Machine Learning
- Second Runner Up in the Build-A-Bot, Mask-Up Project Using Arduino and ML

RESPONSIBILITIES / EXTRA-CURRICULAR ACTIVITIES

- Part of Publicity, Sponsorship, and Design Team in AstraX'21 (Annual Space Fest of IIT Mandi)
- Event Coordinator of Computational Astronomy Hackathon (AstraX'21 and Astrax'22), Sponsorship Head for AstraX'22
- Volunteer for Space and Technology Club, and Photography and Movie Making Club , IIT Mandi, 2021