Avni Mittal

Software Developer | Full-Stack Developer

89, First Floor, Gagan Vihar Main, Delhi - 110051, India\ Email: avni.mittal2002@gmail.com\
Mobile: +91-9667730877

Education

- **5th Semester, Semester Exchange, B.Tech CSE**\ *TU Darmstadt*\ *2022 - 2023*
- **3rd Year, B.Tech Computer Science and Engineering**\ *IIT Mandi*\ *2020 - Present*
- **Higher Secondary Education**\ *SRDAV Dayanand Vihar, Delhi (CBSE)*\ *2020*
- **Secondary Education**\ *SRDAV Dayanand Vihar, Delhi (CBSE)*\ *2018*

Relevant Courses

- Data Structures and Algorithms
- Linear Algebra
- Applied Database Practicum
- Data Science I, II, and III
- Signals and Systems
- Information and Database Systems
- Computer Organization
- Formal Language and Automata Theory
- Computer Vision
- Learning Robots
- Probabilistic Graphical Models

Technical Skills

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

Work Experience

SDE Intern - Clone Test Accounts, Intuit India (2023)

- Analyzed, implemented, and deployed complete feature migration for cloning test accounts for TurboTax.
- Integrated with multiple downstream services for advanced cloning features and conducted unit tests and Karate tests.

Student Assistant - Explainable-AI, TU Darmstadt (2023)

- Analyzed and implemented explainable AI methods and research papers.
- Compared the performance of XIA methods on adversarial images.

Research Intern - FIT-GAME, IIT Mandi (2021)

- Developed a gamified fitness platform where users perform yoga poses to unlock playing games.
- Worked on model development for pose detection and created a web application for the project.
- Selected among 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.

Research Intern - Evaluating Human Reinforcement Learning in Complex Environment, IIT Mandi (2022)

- Developed the human playing version of games using ML agents and analyzed human performance.
- Collected data for a subproject to develop LSTM models applied to recordings of humans playing games for reinforcement learning.

Development Project - UGAC Project Portal, IIT Mandi (2022)

- Developed a portal to facilitate collaboration between IIT Mandi professors and students under the Academic Council.

Projects

C-Arm Orientation Tracking (2023)

- Developed analytical and machine learning methods for C-arm orientation tracking to optimize surgical flow.
- Performed data collection, segmentation, development, and testing of ML models, completing the pipeline.

Racing Game AI (2022)

- Implemented a racing car game using PyGame with a reinforcement learning algorithm using Deep Q Learning in PyTorch.

Gender and Age Detection (2022)

- Developed an algorithm employing ESRGAN, Deepface, ImageAI, and Resnet models to identify the gender and age of humans in CCTV surveillance videos.

Credit Management System (2021)

- Built a credit management system for IIT Mandi students using Node.js, MongoDB, HTML, and Git.

Achievements

- 2nd Position in Fakathon (Fake Face Classification), Utkarsh'21 (among second year students)
- 2nd Position in Hack36 Hackathon, IIT Mandi
- 1st Position in ATLAS (Astrathon conducted by Space Cell of IIT Mandi), Utkarsh'21
- 1st Runner-up in Vision Arcadia, a project using hand gesture detection through machine learning
- Second Runner-up in Build-A-Bot, Mask-Up Project using Arduino and ML

Responsibilities / Extracurricular 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 the Space and Technology Club, Photography and Movie Making Club at IIT Mandi (2021)

Additional Information

- *Languages:* English (Fluent), Spanish (Intermediate)
- *Hobbies:* Open-source contributions, hiking, and photography