**CHANDIGARH GROUP OF COLLEGES**
Campus : Landran, Mohali

Manan Sharma
Ward No. 13, Shastri Nagar Kathua, Jammu & Kashmir
184101
6006285080
manansharmain68@gmail.com

## EDUCATIONAL QUALIFICATIONS

| Year | Degree | School/Institute | Board/University | %age /CGPA |
|------|--------|------------------|------------------|------------|
| 2023 | B. Tech Computer Science | Chandigarh Engineering College Mohali | Punjab Technical University | 86.275 % (Upto 4rd semester) |
| 2019 | 10+2 | Tiny Scholars Sr. Secondary School, Kathua | JKBOSE | 81.8% |
| 2017 | Matriculation | Army Public School Janglot | CBSE | 10(CGPA) |

## ACADEMIC ACHIEVEMENTS

● Won 2$^{nd}$ Prize in Inter College Science Exhibition held in Chandigarh Group of Colleges, Landran.
● Applied for a patent for Sustainable Industrial Development (yet to be approved)
● Zonal Rank: 6 & International Rank 195$^{th}$ in International English Olympiad (IEO) by SOF in 2018.
● Zonal Rank: 14 & International Rank 538 in National Science Olympiad (NSO) by SOF in 2018.
● Won the 2$^{nd}$ Academic Excellence Scholarship (AES) by SOF during the year 2015- 2016. ● Zonal Rank 4 in National International English Olympiad and International Rank 116 organized by SOF in January 2016.
● State Rank 1 in National Talent Hunt Organized by Silverzone foundation in 2016
● National Rank 4 in AWES National Quiz Finale in New Delhi in 2016.
● Cluster and Western Command Champions in AWES National Quiz held at Yole Cantt, Himachal Pradesh and Clement Town, Dehradun, respectively.

## SOFTWARE COMPETENCIES

| | | |
|---|---|---|
| Operating Systems | : | Windows, Linux |
| Languages known | : | C, C++, Python, HTML, C#, JavaScript, MySQL, PHP |
| Database(s) known | : | MySQL, MS Access, Elasticsearch |
| Other Interests | : | Visual Studio, Unity Game Engine, VS Code, OpenIV, Davinci Resolve 17, Rockstar Editor, Blender, GIMP, Adobe Photoshop, After Effects. |

**PROJECTS UNDERTAKEN**

<table>
<tr><td colspan="3">1. <b>Project Name: DROIDFISH- The Chess Engine</b></td></tr>
<tr><td>Environment</td><td>:</td><td>Windows, PyCharm Community Edition, PyGame</td></tr>
<tr><td>Languages/Database</td><td>:</td><td>Python</td></tr>
<tr><td>Project Description</td><td>:</td><td>
<ul>
<li>It is a Chess Engine which analyses the best move at a certain position</li>
<li>It is an elaborate software which allows you to play the game of chess at different depths.</li>
<li>Uses pyGame module.</li>
<li>The program consists of three different components: The Chess AI, The Chess Engine, Chess Main, and the Chess AI.</li>
<li>It incorporated the <b>Negamax and Alpha Beta Pruning</b> Algorithm as well, to truly optimize the performance of the Engine.</li>
<li>Has 3 Playing modes- Person Vs. Person, Computer Vs. Computer, Computer Vs. Person.</li>
</ul>
</td></tr>
<tr><td colspan="3">2. <b>Project Name: DROIDRUSH: AN ENDLESS RACER</b></td></tr>
<tr><td>Environment</td><td>:</td><td>Windows, Unity Game Engine, Unity 3D, Visual Studio 2022, Blender</td></tr>
<tr><td>Language</td><td>:</td><td>C#(C Sharp)</td></tr>
<tr><td></td><td></td><td>
<ul>
<li>It is an endless 3d racer game with level system, a scoring system.</li>
<li>The game implements 3D models to its core, and I have applied physics to the game assets</li>
<li>It includes the PlatformSpawner script, a CarController Script, CarManager scripts which allow to control various aspects of the project.</li>
<li>Coding has been implemented in C#, and the game engine used is Unity Game Engine, and the 3d models have been created in Blender.</li>
<li>It also includes the first menu screen, and a High Score Implementation system, which stores the score, each time the app closes.</li>
<li>Game is live on the Amazon Appstore as "Droidrush: An Endless Racer"</li>
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</td></tr>
<tr><td colspan="3">3. <b>Project Name: Reinforcement Learning AI: Flight with ML Agents</b></td></tr>
<tr><td>Environment</td><td>:</td><td>Windows, Unity Game Engine, TensorFlow, Visual Studio, Unity 3D, Blender</td></tr>
<tr><td>Language</td><td>:</td><td>C#, Python, Reinforcement Learning</td></tr>
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| | | |
|---|---|---|
| Project Description | : | • A Self Flying AI Environment in which the planes can fly themselves across the environment and the user can configure the self-driving plane, and compete against the AI, according to the levels.<br>• Coded using C# in Unity Game Engine<br>• ML agents kit also implemented to get the Reinforcement Learning Model to work<br>• Uses Reinforcement Learning branch of Machine Learning, with some rewards assigned to certain parameters which allow the planes to traverse the best path.<br>• 3D modelling done in Blender. |

### 4. Project Name: Deep learning NLP COVID Question Answering AI System Using BERT

| | | |
|---|---|---|
| Environment | : | Windows, Anaconda, Jupyter Notebooks, Visual Studio Code, WSL, Docker |
| Languages/Databases | : | Python, Deep Learning, Natural Language Processing, Streamlit, |
| Project Description | : | • An AI Question Answering System based on Deep Learning.<br>• Uses Natural Language Processing models and BERT Models to form the system.<br>• Finds and gives real-time answers from reliable research papers for questions on COVID-19.<br>• Does not give fake news and can be used by researchers and health professionals alike<br>• Enlists a confidence score for the answers and highlights the same and the information can be fetched from the Research paper.<br>• Uses FastAPI which uses a rest interface to fetch the queries.<br>• Uses StreamlitUI framework at the frontend. |

**EXPERIENTIAL LEARNING / INDUSTRIAL TRAINING**

**Organization:** Solitaire Infosys Pvt Limited

- Project Details: Truth & Dare Application

- Duration: 4-5 weeks.

**Experiential Learning**

- Completed the AWS Application Developer Certification

- Participated in the Microsoft AI Fundamental Challenge and learned about

  Computer Vision and Azure Services

- Completed the Learnathon 2021 and gained skills in Cisco Cloud, Automation, MATLAB, Economics, etc.
- Completed Python Crash Course by Google from Coursera.

## INTERPERSONAL SKILLS

- Dynamic team leader (Led my Team to winning an Inter-College Chemistry Exhibition).
- Eloquent and nonchalant articulator- a fluent speaker
- Able problem solver.
- Can hold my own in sticky situations
- Creative out of the Box thinker.
- Able to meet targets without compromising on the quality of the solution.
- Able to cohesively lead and be an integral part of teams.
- Able to work with perseverance.

## EXTRA-CURRICULAR ACTIVITIES

- Won the Second Prize in Inter College Science Exhibition "Project Display", organized on National Science Day in CEC Mohali on 28th February 2020 and got the chance to present the same to the CSIR Director.
- Actively participated in various coding competitions on online platforms with a rating of 1550.
- Actively Participated in various programming Events organized by Phoenix Club of the college
- Participated and won several quiz competitions, exhibitions, painting competitions, debate competitions at the state and national level.
- Member of the School MC team and organized the Annual Day and served as the Master of Ceremonies
- Participated in online Chess Competition, organized by ChessMemex on online chess platform Lichess.

## HOBBIES/INTERESTS

- Filmmaking, VFX and Cinema.
- Playing Chess (rated 1400 ELO on Chess.com and 1560 ELO on Lichess)
- Listening to podcasts and ancient philosophical wisdom.
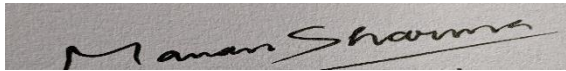- Listening to Trance Music and attending Rave festivals

- Strength Training, Mixed Martial Arts, and fitness in general.
- Reading Novels.
- Studying Economy, Polity, International Relations, Geography, Governance, AMAC, Ethics, etc.
- Painting.

## PERSONAL INFORMATION

**Date of Birth**        :        10-04-2001

**Gender**                **:**        Male

**Marital Status**        :        Unmarried

**Language Proficiency**:        English, Hindi & Dogri

## DECLARATION

*I do hereby declare that the above information is true to the best of my knowledge*.

*(Signature)*

**Name: Manan Sharma**                        **Date: 05/02/22**

                                                **Place: Kathua (Jammu & Kashmir)**