

Jaspreet Singh Marwah

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Aspiring software engineer. I'm passionate about both data science and computer science and am currently working on AI projects as a hobby. I am driven, resourceful, affable and work well in a team.

TECHNICAL SKILLS

Languages: Python , C++ , Java , SQL

Python Tools: NumPy , Pandas , Flask , Matplotlib , Plotly

Database Tools: MongoDB , MySQL

Data Science Tools: Scikit-learn , TensorFlow , PyTorch , NLTK

Others: Git , Heroku , Tableau , Arduino

EXPERIENCE

AI Hub, Durham College

Research Assistant

Oshawa, ON

Mar 2022 - Present

- Worked on tagging data and learning to train AI models to improve the performance of a product used to detect the health of an apple orchard.

Complex Systems Lab, IIIT Delhi

Research Intern

New Delhi, India

May 2019 - Dec 2019

- Collaborated with 11 researchers to build RecipeDB, a structured repository of 118k+ recipes and 20k+ ingredients from over 22 world regions that facilitates multi-level analysis of traditional recipes (dietary classifications, nutritional profiles, flavor profiles, health associations, etc.).
- Co-authored a research paper that was published in Oxford University Press' journal "Database".

PUBLICATIONS

"RecipeDB: a resource for exploring recipes", Database, Volume 2020, Oxford University Press,
<https://www.doi.org/10.1093/database/baaa077>

EDUCATION

Durham College

Grad. Cert. in Artificial Intelligence Analysis, Design and Implementation (Honor roll); CGPA 4.85/5

Ontario, Canada

2021 - Present

Indraprastha Institute of Information Technology, Delhi

Bachelor of Technology in Computer Science and Applied Mathematics; CGPA 7.03/10

New Delhi, India

2017 - 2021

PROJECTS

AI Car Game (GitHub)

Jan 22 - Present

- Built a game in which I'm teaching an AI to race a car via imitation learning on user-provided lap runs.
(Python, PyGame, PyTorch)

RecSys (GitHub)

Sept 21 - Dec 21

- A recommender system that suggests job descriptions/resumes based on search terms or a JD/resume document.
- Pre-processed the dataset (200k+ files) and implemented word embedding techniques (TF-IDF and BoW).
(Python, scikit-learn, nltk)

AI Driven Privacy Quantifier - Privosa (Link)

Feb 21 - Apr 21

- An interactive A.I. driven project that judges you based on your Twitter history to raise awareness on data privacy and data rights.

- Developed an NLP-based algorithm that collects and analyzes users' tweets in order to assign labels to the users that most accurately describe them. (**Python, Empath, Flask**)

Interactive 2D Fractal Generator (GitHub)

Sep 20 - Dec 20

- Generates a 2D IFS fractal based on inputs entered by users through a GUI menu. (**C++, OpenGL, GLFW, Dear ImGui**)

Escaping by Nightfall (Link)

Jan 20 - Jun 20

- A 3D action-adventure survival game.
- Worked on level design, game strategy and implementation using Unreal Engine blueprints. (**Unreal Engine 4**)

FitSense

Sep 19 - Nov 19

- A tool for patrons of a university gym to plan their workout schedule based on predicted values of crowdedness at any given moment.
- Built, tested and tuned various ML prediction models such as decision tree, random forest, SVM, MLP and techniques such as gradient boosting. (**Python, scikit-learn**)

Snake Vs. Block (Github)

Oct 18 - Dec 18

- An endless 2D game in which you're a snake that has to collect coins, tokens and powerups while avoiding blocks for as long as possible to get the highest score you can.
- Worked on the movement of game objects, functionality of power-ups/coins/blocks, spawning/de-spawning of game objects and serialization/deserialization among other features. (**Java, JavaFX**)

All-In-One Smart Helmet (Link)

Jan 18 - Apr 18

- A helmet accessory linked to an android app that tries to prevent accidents as well as detect and report them to authorities and emergency contacts.
- Programmed an Arduino microprocessor and wrote code to communicate between the device and controller interface. (**Arduino UNO, C++**)

POSITIONS OF RESPONSIBILITY & EXTRACURRICULAR ACTIVITIES

- Speaker, Annual Symposium on Computational Gastronomy at IIIT Delhi (Dec 2019): Presented findings of the paper "RecipeDB: A Resource for Exploring Recipes".
- Volunteer (animal caretaker) at Sanjay Gandhi Animal Care Centre, Delhi (Jun 2018 - Jul 2018): Helped in the daily caretaking of animals such as dogs, birds, monkeys and peacocks.
- Volunteer at Esya Tech Festival at IIIT Delhi (Aug 2017): Configured and set-up desktops for a LAN gaming tournament and managed crowd flow for a 3-day gaming event called "Pwnd" which had a footfall of 500 people.