Jaspreet Singh Marwah
https://zantorym.github.io

Email : jaspmarwah@gmail.com
Mobile : +1 (437) 332-3633

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++ , HTML/CSS , 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 — Oshawa, ON
Research Assistant — *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 — New Delhi, India
Research Intern — *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 assosciations, 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 — Ontario, Canada
Grad. Cert. in Artificial Intelligence Analysis, Design and Implementation (Honor roll); CGPA 4.82/5 — *2021 - Present*

Indraprastha Institute of Information Technology, Delhi — New Delhi, India
Bachelor of Technology in Computer Science and Applied Mathematics; CGPA 7.03/10 — *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.