

# Jaspreet Singh Marwah

<https://zantorym.github.io>

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I'm passionate about both Cloud DevOps and Software development. I am driven, resourceful, affable, and work well in a team.

## TECHNICAL SKILLS

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**Languages:** Python, PowerShell, Java, C++, JavaScript  
**Python Tools:** NumPy, Pandas, Flask, Matplotlib, Plotly  
**Database Tools:** MongoDB, MySQL

**Data Science Tools:** Scikit-learn, TensorFlow, PyTorch, NLTK  
**Others:** Azure DevOps, Git, Linux, Bash/Shell, Docker, Kubernetes

## EXPERIENCE

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### Healthcare of Ontario Pension Plan (HOOPP)

*DevOps Co-op*

Toronto, ON

*May 2023 - Present*

- Implemented and maintained build pipelines within Azure DevOps, ensuring smooth integration and continuous delivery of applications.
- Developed automation solutions using Python and PowerShell scripting, significantly reducing manual effort and improving productivity.
- Automated a tedious manual task, previously taking 30+ minutes, to a streamlined 2-minute process, resulting in significant time savings and increased efficiency.
- Actively participated in agile activities, including daily stand-ups, sprint planning, backlog refinement, and retrospectives, to foster collaboration and facilitate iterative development.

### MangoVisa

*Software Developer*

Mississauga, ON

*Jun 2022 - May 2023*

- Worked as a MERN stack developer at a lean social-impact startup.
- Worked in a team of two to completely rebuild the product's frontend and backend from the ground up.
- Reported directly to the CEO and provided feedback on UI/UX, which was applied to the next design iteration.
- Conducted technical interviews for 8 candidates and was responsible for onboarding 2 candidates.

### AI Hub, Durham College

*Research Assistant*

Oshawa, ON

*Mar 2022 - May 2022*

- Worked on tagging data and trained an AI model for 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

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

## EDUCATION

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<b>Seneca College</b> <i>Grad. Cert. in Cloud Architecture and Administration (Honour roll); GPA 4.0/4.0</i>	Ontario, Canada 2022 - Aug 2023 ( <i>Expected</i> )
<b>Durham College</b> <i>Grad. Cert. in Artificial Intelligence Analysis, Design and Implementation (Honours); GPA 4.82/5</i>	Ontario, Canada 2021 - 2022
<b>IIT, Delhi</b> <i>Bachelor of Technology in Computer Science and Applied Mathematics; GPA 7.03/10</i>	New Delhi, India 2017 - 2021

## PROJECTS

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<b>Two-Tier Web Application Architecture Automation with Terraform</b> (GitHub) <ul style="list-style-type: none"><li>Automated the deployment of an architecture on AWS using primarily Terraform.</li><li>The architecture hosts a website and is capable of auto-scaling and load balancing. (<b>Terraform</b>)</li></ul>	Nov 22 - Dec 22
<b>AI Car Game</b> (GitHub) <ul style="list-style-type: none"><li>Built a game in which I trained an AI to race a car via imitation learning on user-provided lap runs. (<b>Python, PyGame, PyTorch</b>)</li></ul>	Jan 22 - Apr 2022
<b>RecSys</b> (GitHub) <ul style="list-style-type: none"><li>A recommender system that suggests job descriptions/resumes based on search terms or a JD/resume document.</li><li>Pre-processed the dataset (200k+ files) and implemented word embedding techniques (TF-IDF and BoW). (<b>Python, scikit-learn, nltk</b>)</li></ul>	Sept 21 - Dec 21
<b>AI Driven Privacy Quantifier - Privosa</b> (Link) <ul style="list-style-type: none"><li>An interactive A.I. driven project that judges you based on your Twitter history to raise awareness on data privacy and data rights.</li><li>Developed an NLP-based algorithm that collects and analyzes users' tweets in order to assign labels to the users that most accurately describe them. (<b>Python, Empath, Flask</b>)</li></ul>	Feb 21 - Apr 21
<b>Interactive 2D Fractal Generator</b> (GitHub) <ul style="list-style-type: none"><li>Generates a 2D IFS fractal based on inputs entered by users through a GUI menu. (<b>C++, OpenGL, GLFW, Dear ImGui</b>)</li></ul>	Sep 20 - Dec 20
<b>Escaping by Nightfall</b> (Link) <ul style="list-style-type: none"><li>A 3D action-adventure survival game.</li><li>Worked on level design, game strategy and implementation using Unreal Engine blueprints. (<b>Unreal Engine 4</b>)</li></ul>	Jan 20 - Jun 20
<b>FitSense</b> <ul style="list-style-type: none"><li>A tool for patrons of a university gym to plan their workout schedule based on predicted values of crowdedness at any given moment.</li><li>Built, tested and tuned various ML prediction models such as decision tree, random forest, SVM, MLP and techniques such as gradient boosting. (<b>Python, scikit-learn</b>)</li></ul>	Sep 19 - Nov 19
<b>Snake Vs. Block</b> (Github) <ul style="list-style-type: none"><li>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.</li><li>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. (<b>Java, JavaFX</b>)</li></ul>	Oct 18 - Dec 18

### 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

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- 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.