Janpreet Swatch

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EDUCATION

McMaster University	Hamilton, ON
B.Tech in Software Engineering Technology	*Sept 2022 – Aug 2025*
Humber College	Toronto, ON
Advanced Diploma in Computer Engineering Technology	*Sept 2019 – Apr 2022*

EXPERIENCE

Machine Learning Developer — Co-op   Jan 2025 – Apr 2025
Health and Rehab Research Inc.
- Improved a MobileNetV2 + U-Net model to predict head, neck, and spine keypoints from medical images.
- Preprocessed images using OpenCV, NumPy, and Pandas.
- Created a custom training loop to combine outputs of older model with inputs of the new one.
- Used L2 regularization and controlled oversampling to handle class imbalance.
- Improved precision to 0.9707, recall to 0.8550, and reduced loss to 0.0909.
- Visualized predictions by overlaying keypoints on new test images; confirmed 90%+ alignment accuracy.
- Used Jira and Zoom meetings to manage sprints and track daily progress with the team.

Software Developer — Co-op   Sept 2024 – Dec 2024
IyeTec Systems Pvt. Ltd
- Built multiple features for a student portal using Angular and TypeScript.
- Used data binding, routing, services, and observables to manage UI state and backend calls.
- Created reusable components for attendance, grades, and announcements.
- Debugged and fixed UI bugs, reducing issue turnaround by 40%.
- Worked in sprints and pushed code through Git and team reviews.

Web Developer — Freelance   May 2024 – Jun 2024
Swatch Fuel Transport Company
- Designed a business website in React with sections for services, contact, and company info.
- Made the site responsive for mobile and desktop users.
- Used basic SEO techniques to improve visibility.
- Used EmailJS API to route contact form submissions to business owner's email.
- Helped the client increase website engagement by 30%.

PROJECTS

Spam Email Detection | *Python, scikit-learn, Pandas, NumPy*   Grade: 95%
- Cleaned a public ham/spam email dataset using Pandas.
- Used CountVectorizer to convert text data into numerical features.
- Trained a Naive Bayes classifier using scikit-learn.
- Evaluated model using confusion matrix, precision, and recall with Matplotlib.
- Tested predictions on real emails; achieved 98.5% accuracy in spam detection.

NutriCart | *React, Vite, FastAPI, SQLAlchemy, Python, Docker, AWS EC2*
- Collected user info (age, weight, fitness goal) through a web form built with React.
- Sent data to a FastAPI backend that used a trained ML model to create a weekly meal plan.
- Stored user and meal data in a SQL database using SQLAlchemy.
- Deployed frontend and backend with Docker containers on AWS EC2.
- Allowed users to filter meals by diet preferences like allergies or vegan options.
- Helped 50+ users plan meals based on their nutrition needs.

SKILLS

Languages: Python, JavaScript, TypeScript, Java, C, SQL, HTML, CSS
Frameworks & Libraries: React, Angular, FastAPI, TensorFlow, Keras, scikit-learn, NumPy, Pandas
Tools & Platforms: Docker, AWS (EC2,S3,IAM), SQLAlchemy, Unix, REST APIs, VS Code, Jira, Git
Practices: OOP, DSA, Debugging, Component Design, Clean Code
Soft Skills: Teamwork, Communication, Problem Solving, Time Management