

Het Patel

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EDUCATION

Western University

Expected 2026

BSc. Honors Specialization in Computer Science

London, ON

- Cumulative GPA: 3.8/4.0; Dean's List
- Relevant Coursework: Software Engineering, Artificial Intelligence, Data Structures & Algorithms, Operating Systems

EXPERIENCE

LLM'S Research Assistant

May 2024 – Present

Western University | Human Centered Computing Group

London, ON

- Developed a Chrome extension for NLP annotation to improve text classification, sentiment analysis, and entity recognition, significantly reducing manual annotation effort.
- Increased sentiment analysis accuracy by **12%** by fine-tuning a large language model (LLM) on a specialized dataset of **85,000 entries**, using the annotation system.
- Enhanced the annotation tool by integrating capabilities for annotating text, audio, and video to support detailed analysis of multi-format interactions.

Fullstack Software Developer

Oct 2024 – Present

Western University | Tech For Social Impact Club

London, ON

- Developing a certification-based learning platform that enables users to complete courses, earn certifications, and manage their skills through an intuitive interface.
- Aided in backend development by setting up server.js, authentication with JWT, Postgres database, and API endpoints, along with implementing features to manage certifications and skills.
- Designing and developing frontend components, including responsive login/signup pages, dynamic profile displays, and intuitive navigation with React and Redux to enhance user experience and manage state.

Undergraduate Research Assistant

Feb 2024 – Apr 2024

Western University | Human Centered Computing Group

London, ON

- Authored an academic paper focused on leveraging LLMs to identify and mitigate phishing email threats; presented at the **HSI 24 international conference** showcasing results from analyzing over **4,000 fraudulent emails**.
- Enhanced data interpretability through statistical analysis and data visualization techniques, including linear regression and k-means clustering.
- Conducted performance analysis on 15 AI models by calculating metrics such as mean, standard deviation, and percentile distributions, identifying ChatGPT 3.5 as the top performer with a detection accuracy of **98%**.

PROJECTS

Memeify: AI Study Aid | *Python, React, Flask, SQLite, groq API, Imgflip API*

July 2024 – June 2024

- Developed an AI-powered platform that gamifies studying by transforming traditional flashcards into engaging learning tools with **95% content relevance** through meme integration and a custom matching algorithm.
- Integrated Imgflip API for dynamic meme generation, allowing users to create contextually relevant and visually appealing memes based on their flashcards and study questions.
- Added personalization by refining meme suggestions based on user feedback to better match study preferences.

Notification System | *React, MongoDB, Node.js, Socket.IO, Electron.js*

Aug 2024 – Aug 2024

- Developed a PC application using Electron.js and Node.js to manage and block excessive notifications from selected messaging apps, minimizing notification overload.
- Enabled users to block notifications from selected apps when the frequency exceeds one every three seconds.
- Addressed complexities in pulling and tracing notifications across multiple applications to identify their origin.

TECHNICAL SKILLS

Languages: Java, Python, HTML, CSS, C#/C++, MongoDB, MySQL, Numpy

Frameworks: React.js, Vue.js, .NET, Flask, Junit, Express.js

Developer Tools: Git, AWS, Jira, Node.Js, PowerBI

Concepts: Software Development Cycle, Agile Methodologies, REST API, Data Analysis, Unit Intergration/Testing, UML

PUBLICATIONS

Evaluating the Efficacy of Large Language Models in Identifying Phishing Attempts July 2024

HSI24 International Conference on Human-Computer Interaction

- Conducted research to evaluate the ability of Large Language Models (LLMs) in detecting phishing attempts across emails, websites, and SMS, focusing on linguistic cues and behavioral patterns.
- DOI: 10.1109/HSI61632.2024.10613528

Evolution of Text-to-Speech Models: From Voder to Neural Architectures Dec 2024 - Present

ACM Conversational User Interfaces (CUI) 2025 Conference

- Analyzing advanced Text-to-Speech (TTS) models to assess their accuracy, audio quality, and efficiency, aiming to better understand the capabilities of modern speech synthesis.

ACCOMPLISHMENTS

First Place Hackathon Winner July 2023

Duck Hacks Hackathon

Toronto, ON

- Developed a Financial Tracker application that delivered real-time budget analysis and predictive spending insights, recognized for its innovation and practical design.

Best Leadership Award Nov 2022

883 Royal Canadian Air Cadets

Markham, ON

- Awarded for demonstrating exceptional leadership and organizational skills as a Flight Sergeant, leading cadet training events and promoting teamwork within the squadron.

LEADERSHIP EXPERIENCE

Flight Sargent Nov 2018 – June 2022

883 Royal Canadian Air Cadets

Markham, ON

- Taught aviation theory and practical exercises to cadets, improving their understanding of aerospace principles
- Directly supervised junior cadets across multiple flights in drill practice, uniform inspections and field exercises, while teaching leadership skills and cadet values to new members
- Organized and led cadet training events, assigned tasks, and managed logistics to ensure smooth operations for the squadron.

STEM Program Assistant May 2021 – June 2021

883 Royal Canadian Air Cadets

Markham, ON

- Led STEM activities for 15+ campers, guiding them through hands-on experiments that strengthened their analytical and critical thinking abilities.
- Mentored campers to identify their strengths and areas for growth, providing personalized guidance to enhance their STEM learning experience.
- Directed camp operations by making real-time decisions and overseeing activities to ensure a successful camp experience.

Quality Control Analyst June 2024 – Aug 2024

Teva Pharmaceuticals

Scarborough, ON

- Performed statistical analysis on medical drug records, identifying trends and patterns within extensive datasets and organizing the information for further insights.
- Conducted audit tests and reviews while demonstrating a strong ability to detect any discrepancies and timely communicating them to the team.
- Utilized Laboratory Information Management Systems (LIMS) to efficiently manage and track samples from receipt through testing and disposal.