

# Manav Patel

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## EDUCATION

### Toronto Metropolitan University

Master of Engineering in Computer Engineering, AI Specialization

Toronto, ON, Canada

May 2024 – Apr 2025

### Toronto Metropolitan University

Bachelor of Engineering in Computer Engineering, Software Specialization

Toronto, ON, Canada

Sept 2019 – Apr 2024

## EXPERIENCE

### Teaching Assistant

Toronto Metropolitan University

Sept 2024 – Present

Toronto, ON, Canada

- Managed labs on **Java** programming, guiding students through introductory **Java**, **OOP**, and **JUnit** concepts.
- Provided **NetBeans** IDE setup and troubleshooting assistance, ensuring smooth lab operations for students.
- Coordinated lab schedules, assignments, and exam prep, ensuring clear communication with **50+** students.

### Software Engineer Intern

FGF Brands

May 2023 – Aug 2023

Toronto, ON, Canada

- Demonstrated expertise in **.NET MVC** applications, improving application stability.
- Collaborated with a variety of teams, delivering **3** projects on time and exceeding expectations.
- Enhanced the Workflow Management Portal, streamlining internal workflows and increasing efficiency.
- Reduced bug occurrences by **10%** through testing and fine-tuning of applications.
- Ensured accurate data migration and mass uploads via proficient **SQL** queries, improving data accuracy.

### Software Engineer Intern

Lockheed Martin

Sept 2022 – Apr 2023

Ottawa, ON, Canada

- Developed **RESTful** APIs using **Express.js**, enhancing data flow between server and client-side applications.
- Designed robust data models and maintained **PostgreSQL** databases for **2** full-stack applications.
- Achieved **90%** code coverage with comprehensive **JEST** unit tests, significantly reducing bugs.
- Facilitated **5+** phases of the **SDLC**, including design, coding, testing, bug fixing, and API documentation.
- Enhanced application performance by optimizing server-side logic and database queries.

## PROJECTS

### Movie Success Predictor | [Github](#)

July 2024

- Developed an **NLP**-based predictive model to forecast movie success from scripts, ratings, and metadata.
- Extracted features from IMDb, TMDb, and IMSDB datasets, analyzing over **8,500** entries.
- Implemented a **BERT** model for script semantics and an **LSTM** model for text sequences using **TensorFlow**.
- Utilized a **Random Forest** model with **scikit-learn** to forecast movie ratings, leveraging key dataset features.

### BiasAware - Engineering Capstone Project | [Github](#)

Apr 2024

- Developed a web tool analyzing biases in AI Image generators.
- Conducted prompt engineering to highlight social biases in generated images, testing various prompt variations.
- Generated **3000+** images for **12** distinct social biases, curating a comprehensive image and prompt database.
- Trained a **Stable Diffusion** model using **HuggingFace** to generate and analyze images for biases.
- Implemented a responsive web application using **MongoDB**, **Express.js**, and **React**.

### Secure Banking System | [Github](#)

Mar 2024

- Created a key distribution protocol for secure ATM-bank communication with **encryption** and **authentication**.
- Engineered a socket communication framework for concurrent ATM client connections, enhancing security.
- Developed a **Tkinter**-based GUI with backend support using **Python's** cryptography libraries.

### Personal Portfolio (additional projects) | [manavpatel.me](https://manavpatel.me)

## TECHNICAL SKILLS

**Languages:** Python, JavaScript, Java, C/C++, SQL, HTML/CSS, MATLAB, C#

**Frameworks:** React, Node.js, JUnit, FastAPI, JEST, TestNG, Selenium, gRPC

**Developer Tools:** Git, Docker, GCP, AWS, Azure, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, MongoDB, Jupyter, Kubernetes, Jira

**Libraries:** pandas, NumPy, Matplotlib, Sklearn, TensorFlow, Keras