

Himani Haresh Patel

+1 201-467-1006 | [Gmail](#) | [LinkedIn](#) | [GitHub](#) | [Portfolio](#)

EDUCATION

Rutgers University, New Brunswick, New Jersey

Master of Science in Computer Science – Specialization in Artificial Intelligence

Relevant Courses: Data Structures & Algorithms, Intro to AI, Statistics, Massive Data Mining, Database for Data Science, Machine Learning

Institute of Technology, Nirma University, Gujarat, India

Bachelor of Technology, Computer Science

Sep 2021 - May 2023

GPA: 4/4

Aug 2016 - Jul 2020

GPA: 8.47/10

RELEVANT EXPERIENCE

IT Research Support Specialist, Rutgers University

Oct 2021 - Present

- Designing and implementing workflows using **KNIME, Python, Java and JavaScript, TypeScript, HTML/CSS** for NLP algorithms, helping more than **20 faculties and 1700 students** with a non-coding background to utilize the tools for research.
- Collected data using **Python** from Reddit, Twitter, Volunteer Science, Qualtrics, Meltwater; cleaned the data and prepared visualizations for research use.

AI Consultant, VMukti Solutions, India

Apr 2021 - May 2021

- Designed and implemented a workflow using **Python with multiprocessing** for real-time retrieving, analyzing, and handling issues in **47,000 cameras** across multiple servers automating the existing manual process for **45 employees** across multiple departments.
- Trained Electronic Voting Machine (EVM) detector, gaining an **accuracy of 91%** using **PyTorch**.
- Utilized **Python** to develop plugins for data transfer between surveillance camera, frontend, and EVM detection engine.

AI Intern, VMukti Solutions, India

Sep 2020 - Mar 2021

- Improved the latency of Inference Engines by **200%** using **TensorRT** for optimizing existing model architectures.
- Developed pre and post-processing modules, using **Python with OpenCV**, for face recognition systems, Social Distancing and Mask Detection system for Legislative Assembly Election centers.

Software Intern, Studio Untitled1, India

Jan 2020 - May 2020

- Utilized **C++**, **OpenCV** using **Java Native Interface** for processing images used in body mapping algorithm resulting in **9% improved FPS**.
- Developed Camera Calibration, ArUco Marker Detection, Dynamic Thresholding, and Accelerometer Calibration modules for 3D Body Mapping **Android** application having significant impact on the Apparel Industry using **Android Nativex with Multithreading**.

PROJECTS

Voyage into the Unknown | *Python, Multiprocessing, Pandas, Matplotlib, Tensorflow, Keras* | [GitHub](#)

- Designed and implemented variations of A* algorithms using **Python with multiprocessing**, for variants of target finding agent, where the agent has no prior knowledge of the given gridworld with obstacles and learns about it as it traverses along the gridworld.
- Utilized the data generated from the implemented algorithmic agents to train a model using **Tensorflow and Keras** to mimic the behavior of algorithmic agents gaining over **91% accuracy**.

Traveling Salesman Problem Variations | *Python, Multiprocessing, PySimpleGUI, Matplotlib* | [GitHub](#)

- Implemented three genetic algorithms: Ant Colony Optimization, Black Hole Optimization, Particle Swarm Optimization using **Python with multiprocessing**; to find a polynomial-time solution of an NP-Hard problem and analyzed the space and time complexity along with optimality of the solutions.
- Developed UI using **PySimpleGUI** for initial user inputs and utilized **Matplotlib** for visualization of results.

Amazon-Clone | *ReactJS, Firebase, Next.js, Tailwind CSS* | [GitHub](#)

- Developed an Amazon clone website using **ReactJS, Firebase, Next.js, Tailwind CSS**.
- Implemented Google Sign In a fully functional cart using **React Redux** and Integrated a secure payment processing system using Stripe.

Mask-NoMask Tracker | *Python, Tensorflow, NumPY, Pandas, Matplotlib*

- Used OpenCV for preprocessing image data and used Tensorflow with **YOLOv4-DeepSort model** to detect whether a person is wearing a mask and track the person; resulting in **accuracy of 75%**.
- Utilized the same trained model to the existing people counter application which **reduced the analytics load on server by 30%**.

Western Railway- Ahmedabad Division, India | *Google Apps Script, HTML, CSS, SQL*

- Collaborated with a 7 member team to develop a dashboard and to customize and automate Google Sheets for **50 employees**.
- Learned to handle large datasets, make use of optimizations in the code to use the data effectively.

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, C/C++, HTML/CSS, SQL, R

Libraries: React, OpenCV, Pytorch, TensorFlow, Keras, NumPY, Pandas, Matplotlib

Databases: MySQL, MongoDB

Tools: Docker, GStreamer, Nvidia-TensorRT, Git, GitHub, Visual Studio, Jupyter Notebook, CUDA, Angular, Android

POSITIONS OF RESPONSIBILITY

Creative Head, IEEE Student Branch

Nov 2018 - Nov 2019

- Responsibilities: Event Designing, Designing of posters, flyers, certificates, and IDs.

Teaching Volunteer, Bhojiyapura Elementary School

Apr 2019 - May 2019

- Taught Math and Environmental Studies to 2nd through 5th-grade students.