# RUHAAN SINGH

## 11TH GRADE - STEM (TJHSST)

## CONTACT

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## SOFT SKILLS

- Teamwork
- Time Management
- Leadership
- Effective Communication
- Critical Thinking

## TECH SKILLS

- Python (Expert)
- Java (Expert)
- HTML, CSS, JS (Expert)
- C++ (Intermediate)
- SQL, MySQL (Intermediate)
- RStudio
- Data Structures & Algorithms
- Machine Learning
- Mobile & Web Development
- Computer Vision
- Libraries & Frameworks (NumPy, Pandas, OpenCV, PyTorch, Angular, React)

## EXTRA-CURRICULAR

- Dhol player
- Bhangra dancer & teacher
- Tennis

## PROFILE

As a junior at Thomas Jefferson High School for Science and Technology (TJHSST), one of the nation's leading STEM institutions, I have developed a solid foundation in advanced technical and coding skills, honed through hands-on projects and rigorous coursework. My experience includes working on complex projects that demand a high level of logical reasoning, creativity, and precision. Known as a detail-oriented team player, I excel in collaborative environments, bringing both analytical and innovative thinking to solve challenging problems.

## EDUCATION

Thomas Jefferson High School for Science and Technology
Expected Graduation: 2026
Pursuing a specialized curriculum in science, technology, engineering, and mathematics (STEM).

## PROJECTS

### Air Quality & Allergy Analysis AI Tool      JUNE 2023 - JAN 2024

Developed a web-based AI platform with an algorithm that analyzes air quality and identifies potential allergy risks using geolocation data and real-time air quality metrics to deliver personalized health insights

*Technologies Used: JavaScript, HTML, CSS, Weather API, Python*

### Parkinson's Disease Early Detection via Handwriting & Spiral Test Analysis      SEP 2024 - ONGOING

Developing a computer vision-based tool for the early detection of Parkinson's disease using pre-existing digital datasets of handwriting and spiral test images. Using machine learning algorithms, including CNNs, to identify early markers of the disease. Working towards high accuracy in classifying PD-positive and control samples, to offer a non-invasive alternative for early diagnosis.

*Technologies Used: Python, OpenCV, PyTorch, CNNs, PPMI Dataset*

## ACHIEVEMENTS

### Award-Winning Bhangra Dancer
**Won 3rd place** at **international** competition Flower City Bhangra 2023 and **4th place** at **international** competition Eastside Bhangra 2024.

### Officer & Activities Coordinator - Namaste Club
**Raised $5,000** to donate to ActionAid USA nonprofit to support communities in need around the world.

### Fairfax County Peace Award Winner
**Recognized for promoting peace** and cross-cultural understanding at my school through **leadership in Namaste Club activities.** Played a key role in organizing events that fostered inclusivity and cultural awareness.

### Award-Winning MUN Delegate & Judge
**Judged** at TECHMUN 2023 & 2024; **won awards** at ILMUNC, WMHSMUN, NAIMUN, VIMUNC, MCMUNC, CHMUN.