

# TATHYA SHAH

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## SKILLS

- Database Management
- Proficient in Python, Java, R, MATLAB, Thunkable, and JavaScript.
- Data Visualization
- Data Analysis
- Software Development

## EDUCATION

AUGUST 2022 - MAY 2026

**HONORS IN BACHELOR OF SCIENCE IN  
COMPUTER SCIENCE, RUTGERS UNIVERSITY**  
**MINOR IN DATA SCIENCE**  
**GPA - 3.810**

## EXPERIENCE

AUGUST 2023 - PRESENT

**LEARNING ASSISTANT, RUTGERS UNIVERSITY NEW-BRUNSWICK**

- Utilized effective communication strategies to engage over 500+ students in active learning and foster a positive educational environment.
- Showcased leadership skills by mentoring and guiding students, fostering a culture of continuous learning and improvement.
- Exhibited strong interpersonal and communication skills in collaborating with faculty members to identify learning objectives and align tutoring strategies.
- Leveraged leadership qualities to effectively manage student queries and concerns, ensuring a smooth and productive learning experience.

APRIL 2023 - PRESENT

**STUDENT RESEARCH ASSISTANT, RUTGERS UNIVERSITY NEW-BRUNSWICK**

- Conducted research on photonic superlattice structures, focusing on optimizing their reflectance and transmittance. Developed an innovative algorithm to maximize the thermoreflectance coefficient of materials and surfaces within a scattering matrix, significantly enhancing the performance of the structures.
- My team and I used MATLAB for the front-end algorithm development that had optimizing functions, and we implemented ML methodologies to design an optimizing algorithm for a scattering matrix with different materials for microchip temperature industrial sensors.
- Developed a structured understanding of programming in MATLAB and honed algorithm development skills alongside data visualization through R for the research.

APRIL 2019 – JULY 2019

**STUDENT IT INTERN ASSISTANT, CLOVER MEDICAL CENTER**

- Created and designed an Excel sheet with an integrated A.I. database using PyCharm and Python. It took the information from a dynamic SQL database and a public library. It generated real-time updates to the Excel sheet to help organize and smoothen the workflow of the branch.

## AWARDS, PROJECTS AND ACHIEVEMENTS

### ACTIVITIES

- Worked at Emirates Aviation University Summer Camp on creating software that designed an aerodynamic aerofoil using ANSYS. Developed an internal cockpit circuit board that automated the flight safety features and digitally designed jet turbines using AutoCAD Innovator and 3D printed them to test in a real-world scenario.
- Part of the men's cricket team as a senior bowler and captain of the team.
- Part of the men's volleyball team in high school.

### AWARDS

- Dean's list for Fall 2022 and Spring 2023 (Rutgers University)
- Data Science Hackathon Finalist for Research and A.I.
- AS-Level topper
- A-Level Topper
- Placed 11<sup>th</sup> in the International Math Olympiad (IMO, 2018) Middle Eastern Region amongst 12,000+ participants.
- Global Innovation Challenge (GIC) Finalist

### PROJECTS -

#### FINE-QUO

- My group and I developed an application with integrated A.I. that helps promote a healthy lifestyle by gifting the user points for completing fitness-related tasks using THUNKABLE and the database using SQL with the variables package. I was a part of the core group that developed the A.I. that would detect changes in the stimuli using a camera and determine whether the given task was completed.

#### SAP – SALES AND DISTRIBUTION

- Worked under a SAP professional and derived a sales and distribution module through the software. This helped me understand a proper work setting, and I gained valuable experience working under a professional and constructed a module that small-size businesses can use.

#### INTERACTIVE VIDEO GAME GUI DEVELOPMENT

- This project encompasses data structures and algorithms. I have built an interactive game using Java, with a Java UI, that utilizes and showcases strong problem-solving and software development. Moreover, I leveraged object-oriented programming to create a clean and maintainable database and implement an intuitive user interface. This project exemplifies my ability and credibility to transform complex concepts into practical solutions.

#### METEOROLOGY DATATHON

- Leveraged AI and time-series forecasting to analyze complex datasets about the anomalies of the global temperatures since 1800, uncovering key insights that led to innovative data-driven solutions and further exploration and won the datathon with my team. This experience enhanced my understanding of machine learning algorithms, data preprocessing, and the importance of data visualization in communicating findings. It also reinforced the value of teamwork, strategic thinking, and effective time management in a high-pressure, competitive environment. This tournament was hosted by Rutgers University - New Brunswick.