

Riya Vazirani Laheja

Basking Ridge, NJ

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EDUCATION

RIDGE HIGH SCHOOL

Basking Ridge, NJ

Expected Graduation: June 2028; **Weighted GPA:** 4.66; **Honors:** Principal's honor roll

OBJECTIVE

Passionate about applying analytical thinking, technical and computational skills, and creative problem-solving to develop impactful, innovative engineering and software solutions.

HONORS/AWARDS

2024-Present	HACKATHONS	Bridgewater, NJ Basking Ridge, NJ
	<ul style="list-style-type: none">• 1st place award in BRHS Hacks - \$100 prize: Won by programming two games - used python libraries• Placed in top 8 at Ridge Hackathon: Created a program that could track trash based on a given destination	
2025-Present	BIOLEAGUE	Basking Ridge, NJ
	<ul style="list-style-type: none">• Represented Ridge High School in science-based academic competitions• Top 5% in New Jersey (14/276)	
2024 - Present	VOLUNTEERING	Basking Ridge, NJ
2025	CONGRESSIONAL APP CHALLENGE	
	<ul style="list-style-type: none">• Recipient of the 250 hour gold pin award at Ridge High School	
	<ul style="list-style-type: none">• Awarded Honorable Mention for SymptoScan, a medical symptom detection app designed for use on any device to help users identify potential health concerns	

PROJECTS

2025-Present	AI SLEEP PREDICTOR (DEEPNOTE)	
	<ul style="list-style-type: none">• Built a machine learning model that predicts optimal sleep hours based on various factors• Used Python and Jupyter-style notebooks in Deepnote• Integrated basic deep forest analysis and real-world health data	
2025	ARDUINO CIRCUIT PROJECTS	
	<ul style="list-style-type: none">• Designed, coded, and assembled multiple interactive electronic projects using Arduino kits• STEM Tec Expo at Ridge High School - Built fully functioning Arduino board that could produce sound; utilized a piezo• Applied both software logic and hands-on hardware manipulation	
2025-Present	GITHUB PORTFOLIO	
	<ul style="list-style-type: none">• Developed and maintained several repositories showcasing diverse projects• Focus areas: website development and experimental ML models	

TECHNICAL SKILLS

2022-Present	PROGRAMMING LANGUAGES
	<ul style="list-style-type: none">• Python, C/C++, HTML, CSS, JavaScript
2025-Present	TECHNICAL SKILLS
	<ul style="list-style-type: none">• GitHub, Deepnote, Arduino, various circuit gates

2022-Present	AREAS OF INTEREST
	<ul style="list-style-type: none"> Artificial Intelligence, Machine Learning, Computer Architecture, Networking, Cybersecurity

EXTRACURRICULAR ACTIVITIES

2024-Present	THE START SMALL PROJECT	Basking Ridge, NJ
	<i>Co Founder of Startup</i>	
	<ul style="list-style-type: none"> Launched a startup initiative in order to help small businesses overcome being overpowered by larger corporations Provide free social media support as well as budgeting and financial advice 	
2015-Present	TAE KWON DO (FIRST DEGREE BLACK-BELT)	Basking Ridge, NJ
	<ul style="list-style-type: none"> Learning discipline, focus, self-defense, and cooperation with peers Practices include breaking boards, forms, and endurance conditioning Selected for leadership program as an instructor 	
2023-2025	STORMING ROBOTS	Branchburg, NJ
	<ul style="list-style-type: none"> Advanced robotics and algorithm program focused on problem-solving and deep logic Developed several C/C++ projects emphasizing recursion, search/sort algorithms, and efficient code design 	
2022-Present	SOCER	Basking Ridge, NJ
	<ul style="list-style-type: none"> Girls soccer team for 2 years in William Annin Middle School Junior Varsity team at Ridge High School for 2 years Won girls state championships twice in both 7th and 8th grade Undefeated in freshman year season 	
2024-Present	GIRLS WHO CODE (VICE PRESIDENT)	Basking Ridge, NJ
	<ul style="list-style-type: none"> Helping to run the club meetings and organize its contents Taught Python basics to middle and elementary school students through peer-led lessons 	
2024-Present	STEMMx (SOCIAL MEDIA OFFICER)	Basking Ridge, NJ
	<ul style="list-style-type: none"> Helping to run the meetings and manage the club's social media Frequently organizing labs and putting together informational slideshows for the club 	
2024-Present	AMNESTY INTERNATIONAL (VICE PRESIDENT)	Basking Ridge, NJ
	<ul style="list-style-type: none"> Frequently planning and carrying out successful fundraisers 	

ACADEMIC ENRICHMENT PROGRAMS

2025	BWSI MIT SPRING PROGRAM	
	<ul style="list-style-type: none"> Selected for the “Many Interesting Things for Aspiring Engineers” initiative Explored AI, machine learning, internet infrastructure, web hosting, and collaborative tools like GitHub and Deepnote 	
2025	GIRLS WHO CODE PATHWAYS PROGRAM	
	<ul style="list-style-type: none"> Selected for the competitive summer Pathways Program for Girls Who Code Networked with professional coders and learned computational and algorithmic thinking 	
2025	COLUMBIA UNIVERSITY SCIENCE HONORS PROGRAM	Manhattan, NY
	<i>Bioengineering Design</i>	
	<ul style="list-style-type: none"> Selected into Columbia’s competitive weekend STEM program for high-achieving high school students Studied biomedical engineering concepts including system design, modeling, and biological applications 	

SERVICE EXPERIENCE

2024-2025	TUTORING	Basking Ridge, NJ
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- Weekly math tutoring for three elementary-aged students (fractions, multiplication, and problem-solving)
 - Violin tutor for two young musicians, helping with school orchestra material and additional difficult pieces

2024-Present

VSY (VEDIC SAMAJ YOUTH)

Basking Ridge, NJ

- **Director of Web Development:** Maintaining, developing, and keeping the website up-to-date
 - Taught and led coding camp for elementary and middle school students to learn Python

2024-Present

BERNARDS TOWNSHIP LIBRARY

Basking Ridge, NJ

- Volunteer services with Tech Teens: Helping seniors with phone, email, app, and computer troubleshooting

Summer 2024 -

WHEELS (NON-PROFIT)

- Summer intern at WHEELS Global Foundation
 - Published 3 blogs about different types of health awareness globally

Summer 2025

June 30 -

August 1

GROUP COUNSELOR

Basking Ridge, NJ

- Selected for summer camp group counselor position for elementary school aged children
 - Created close bonds with the children and was an enjoyable and fulfilling experience

RESEARCH EXPERIENCE

May 2025 -

Present

MIT MANTIS LAB (RESEARCH CONTRIBUTOR)

- Selected to contribute to MIT's computing research program under Professor Manolis Kellis
 - Worked with complex computing concepts, rapid prototyping tools, and lab grade testing methods
 - Developed skills in iterative design, analysis, and real world research workflows

2022 - 2024

INSPIRIT AI: APPLIED AI RESEARCH PROGRAMS

- Trained and evaluated machine learning models using Python and Google Colab
 - Conducted data preprocessing, feature selection, and model performance analysis
 - Explored ethical considerations and real-world applications of artificial intelligence

March 2025 -

Present

INDEPENDENT AI RESEARCH PROJECT: SLEEP OPTIMIZATION MODEL - BWSI

- Designed and built a machine learning model to predict optimal sleep duration based on lifestyle variables
 - Collected, cleaned, and analyzed datasets; evaluated model accuracy and limitations
 - Documented results and maintained reproducible code in GitHub/Deepnote