

# Shruti Badrish

SENIOR AT REDMOND HIGH SCHOOL  
REDMOND, WA

## Objective

Shruti Badrish is a senior at Redmond High School. She is interested in STEM fields and has a passion for computer science and mathematics. She is the owner and founder of Stemity, a non-profit organization dedicated to fostering STEM interest in elementary and middle school students.

## Education

2023-2024

### Bellevue College

Courses: Calculus III, Calculus IV

2020-2024

### Redmond High School

GPA: 4.0

AP Courses: Calculus AB, Computer Science A, Chemistry, Physics C: Mechanics, English Language & Composition, Calculus BC, Environmental Science, U.S. Government, Biology, Statistics, Psychology

Honors Courses: Algebra 2, Biology, Art 1, Pre-Calculus, Spanish 2, Spanish 4, English 12

Clubs: Science Olympiad (competitions coordinator), Video Game Design (co-president), National Honor Society, Math Club, AI Club, Art Club, Computer Science Club

## Standardized Tests

Aug 2022

**SAT:** 1590 (800 math, 790 EBRW)

Oct 2022

**PSAT:** 1510 (760 math, 750 EBRW)

May 2023

**AP Calculus BC:** 5  
**AP Environmental Science:** 5  
**AP English Language & Composition:** 5  
**AP Physics C: Mechanics:** 5

May 2022

**AP Chemistry:** 5  
**AP Computer Science A:** 5  
**AP Calculus AB:** 5

## Research Experience & Projects

Aug-Oct 2023	<b>TrashPic</b> <ul style="list-style-type: none"><li>• Project Name: TrashPic</li><li>• Description: A machine learning model and smartphone app to classify pictures of items as recyclable or waste, in order to streamline recycling.</li><li>• Under submission to Congressional App Challenge.</li></ul>
Jun 2023-present	<b>In Person Conversation Analysis</b> <ul style="list-style-type: none"><li>• Project Name: In Person Conversation Analysis</li><li>• Description: A web app that keeps track of different speakers and measures conversation quality.</li><li>• Name of University: University of Washington</li><li>• Lab: Ubiquitous Computing Lab</li><li>• Position: Paid research intern</li></ul>
Sep-Mar 2023	<b>WalkSmart</b> <ul style="list-style-type: none"><li>• Project Name: WalkSmart</li><li>• Description: A new machine learning-based real-time gait analysis technique using smartphones to mitigate ambulatory fall incidents.</li><li>• Presented at Washington State Science and Engineering Fair (WSSEF)<ul style="list-style-type: none"><li>◦ Won First Place</li><li>◦ Won U.S. Navy Office of Naval Research Naval Science Award</li></ul></li></ul>
Feb-Apr 2022	<b>#trashtag</b> <ul style="list-style-type: none"><li>• Project Name: #trashtag</li><li>• Description: A video game that emulates the cleaning of a littered beach, designed to spread awareness about pollution and encourage the player to clean a beach in real life.</li></ul>
Feb-Apr 2021	<b>The Lost Island</b> <ul style="list-style-type: none"><li>• Project Name: The Lost Island</li><li>• Description: A fantasy text-adventure game in which the player must defeat a dragon terrorizing an island.</li><li>• Submitted to the Washington State PTA Game Development Competition<ul style="list-style-type: none"><li>◦ Won first place in the "Board/Text/Card Game" category</li></ul></li></ul>

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## Work Experience

2023-present	<b>Kumon, Redmond, WA</b> <b>Center Assistant</b> <ul style="list-style-type: none"><li>• Grader</li><li>• Early Learners Assistant</li></ul>
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## Volunteer Experience

2020-present	<b>Owner and Founder of Stemify, a non-profit for education</b> <ul style="list-style-type: none"><li>• Founded in 2020, conducted STEM-based competitions for charity (stemify.org)</li><li>• Expanded in 2021-22, conducted STEM-based interactive workshops (stemify.net)</li></ul>
2022	<b>Counselor for Girls Rock Math</b>
2022	<b>Tutor for Essay Writing at North South Foundation</b>
2022	<b>Teaching Assistant (TA) at Einstein Elementary</b>
2022	<b>Facilitator for the Julia Robinson Mathematics Festival (JRMF)</b>

2019-2020      **Teaching Assistant (TA) at Einstein Elementary**  
 2019-2020      **Activity Volunteer at Einstein Elementary**  
 2019              **Proctor, Math Challenge Masters Tournament**

## Awards & Honors

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2023	<b>National Merit Scholarship (NMSC) Semifinalist</b>
2023	<b>AP Scholar with Distinction Award</b>
2023	<b>U.S. National Chemistry Olympiad (USNCO):</b> State finalist, advanced to Nationals
2023	<b>Washington State Science and Engineering Fair:</b> 1 <sup>st</sup> place, U.S. Navy Office of Naval Research Naval Science Award
2023	<b>U.S.A. Computing Olympiad (USACO):</b> Gold Division
2023	<b>North South Foundation:</b> <ul style="list-style-type: none"> <li>State: 1<sup>st</sup> place (Computer Science), 1<sup>st</sup> place (Public Speaking)</li> </ul>
2022-2023	<b>Fall AMC 12B Score: 85.5 – Qualified for 2023 AIME I</b>
2022	<b>AP Scholar Award</b>
2022	<b>North South Foundation:</b> <ul style="list-style-type: none"> <li>Nationals: 9<sup>th</sup> place (Computer Science)</li> </ul>
2022	<b>National Novel Writing Month (NaNoWriMo) Challenge Winner</b>
2021-2022	<b>Fall AMC 10A Score: 96 – Qualified for 2022 AIME II</b>
2020	<b>Washington State PTA Game Development Competition:</b> 1 <sup>st</sup> place in "Board/Text/Card Game" category
2023	<b>Science Olympiad:</b> <ul style="list-style-type: none"> <li>State: 3<sup>rd</sup> (Astronomy), 5<sup>th</sup> (Team)</li> </ul>
2022	<ul style="list-style-type: none"> <li>State: 4<sup>th</sup> (Chemistry Lab), 6<sup>th</sup> (Team)</li> </ul>
2021	<ul style="list-style-type: none"> <li>State: 6<sup>th</sup> (Codebusters)</li> </ul>
2019	<ul style="list-style-type: none"> <li>State: 2<sup>nd</sup> (Herpetology), 3<sup>rd</sup> (Road Scholar), 1<sup>st</sup> (Game On), 2<sup>nd</sup> (Team)</li> </ul>
2022	<b>Reflections:</b> <ul style="list-style-type: none"> <li>LWSD Award of Excellence for <i>This is How You Change a World</i> (advanced to state)</li> </ul>
2021	<ul style="list-style-type: none"> <li>LWSD Award of Excellence for <i>Face of the Future</i> (advanced to state)</li> </ul>
2020	<ul style="list-style-type: none"> <li>LWSD Award of Merit for <i>Concealment</i> (advanced to state)</li> </ul>
2020	<b>You Be The Chemist:</b> State champion

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## Publications

2023

Shruti Badrish. WalkSmart – A New Machine Learning-Based Real-Time Gait Analysis Technique using Smartphones to Mitigate Ambulatory Fall Incidents.  
<https://shrutib.com/papers/gait-based-fall-prevention.pdf>

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## Skills & Certifications

Programming Languages

**Java, Python, C, C++, C#, HTML/CSS/JS, React jsx**

Udemy

**Game Development using Unity Engine & C#**

Coursera

**Algorithms (by Dr. Robert Sedgewick, Princeton University)**

MIT BeaverWorks

**Python  
Version Control with Git  
Autonomous Cognitive Assistance (CogWorks)  
Remote Sensing for Disaster Response**

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## Languages

English

Native proficiency

Tamil

Native proficiency

Spanish

Working proficiency

Sanskrit

Working proficiency

Hindi

Limited proficiency

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