

# Shishir Rajendran

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## EDUCATION

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**Alliance Academy For Innovation**  
**Cybersecurity and Digital Intelligence Track**

*Anticipated May 2025*  
GPA 4.0

## WORK EXPERIENCE

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**Curie Learning Center**  
**Tutor**

**Cumming Georgia**  
*August 2020 - May 2021*

- Provided over 50 students aid with new mathematical concepts from simple addition to Algebra 1
- Guided students to efficiently solve competition math questions from CML and Kangaroo Math
- Helped grow the center by taking part in competitions to attract more students and clients

**Kumon**  
**Tutor & Grader**

**Cumming, Georgia**  
*May 2021 - Present*

- Assisted students with Kumon levels A - L of math and reading, from grades K-12
- Supported with data entry of over 100 students' test scores, worksheet completion, and attendance patterns
- Organized hundreds of worksheets for the learning center for student use, completion, and grading
- Conversed with parents about child progression and helped inform new clients about the center

## PROJECTS

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**FIRST Robotics Competition Robot Code**

*January 2022 – Present*

- Worked with 4 other robotics programmers to create a program that allows Alliance Academy's robot to function at its best
- Operated specifically with the autonomous program, camera identification and shooter, and the drivetrain of the robot
- Scored a multi-ball autonomous with wpilib robotics software, pathplanner autonomous software, and limelight
- Utilized command based and embedded programming to achieve a more efficient shooter, intake, index, and drivetrain

**Sorting Algorithm Visualization**

*March 2022 – April 2022*

- Produced a sorting algorithm that utilizes 3 different sorting techniques in order to visualize 50 values
- Implemented an algorithm generator which allows additional sorting algorithms to be added easily by other programmers
- Applied bubble sort, insertion sort, as well as selection sort into the visualization to propose a variety of sorting solutions
- Constructed an intelligent sorting model that responds on key presses described on a user friendly, directional interface

**Music Party Player with Spotify API**

*March 2021 - April 2021*

- Built a web application that allows users to play music online to many devices in one online party
- Implemented Django framework for the backend, incorporating views, models, and forms to make more secure and friendly
- Utilized the Spotify Developers API to aid in creating a well functioning, aesthetic, and cohesive music application.
- Developed the front end using advanced HTML5 and CSS styling while incorporating React JS for interaction

**A\* Pathfinding Algorithm Visualization**

*January – February 2021*

- Created a pathfinding algorithm that visualizes and finds the shortest distance between 2 nodes or points on a graph
- Built with Python, and specifically the pygame module in order to create a visualization that complements an algorithm
- Produced software that reacts to barriers on the graph and adapts to find the shortest distance regardless.
- Can be used by other fields like mapping and in travel routing systems like GPS and google maps.

**Aether Analytics Website**

- Designed a demo chat website for an upcoming startup business known as Aether Analytics
- Implemented HTML5, CSS, and Javascript Ajax for the frontend with Bootstrap and Crispy forms build around it
- Utilized Django models, forms, and views to build a well functioning efficient demo application/website on the backend
- Made use of web sockets, Ajax, and Http responses on the chat aspect of the website while using Django URL redirection

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## LEADERSHIP / VOLUNTEER

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### VEX Robotics Competition

August 2020 – Present

#### Judge and workshop header

- Worked on and co-headed judging at Georgia regional VEX Competitions as well as a programming workshop respectively
- Helped 135 Middle School VEX teams learn about autonomous programming for VEX robots.
- Expanded robotics across middle schools in Georgia and helped those teams reach state and even world competitions
- Handed out and helped choose winners for various awards and conducted interviews for those winning teams

### Alliance Academy Debate Team

August 2021 – Present

#### Leadership and Research Committee member

- Headed research in debate team for 5 NSDA Topics, which members of the team used to compete in competitions
- Created a ridged plan for a list of things to do for each meeting as well as guided new members into debate
- Composed various presentations for new members on debate writing, formatting, and presentation skills.

## AWARDS / HONORS

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### FIRST Robotics PCH District Chairman's Award Honors

April 9th 2022

### GRAB State Academic Bowl Tournament 1st Place Winners

February 26 2022

### FIRST Robotics PCH District Second Place Alliance

March 26 2022

### Forsyth County Tech Fair 1st Place

April 20, 2021

### Juni Learning Winter Hackathon

January 2019

### Covid 19 Challenge National Champion

March 2021

### American Scholastic Challenge National 3rd place

April 2019

## SKILLS/INTERESTS

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<b>Software:</b>	Python   Java   JavaScript   CSS/HTML   REACT   Django   OnShape CAD   Shotcut Editing   Flask
<b>Hardware:</b>	machining tools   soldering   3D printing   rapid prototyping   woodworking
<b>Spoken Languages:</b>	English (Native)   Spanish (Working Proficiency)   Malayalam (Working Proficiency)
<b>Communication:</b>	oral presentation   technical writing