ESHA B. SAINI

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EDUCATION

Thomas Jefferson High School for Science and Technology (TJ)   *Alexandria, VA*
- National Honor Society;   GPA: 4.32
- Coursework: AP Computer Science A(5), Data Structures, Parallel Computing I/II, Computer Graphics, Web Application Development, Android Application Development, AP Chemistry(5), AP Physics C, AP Microeconomics(5), AP Macroeconomics(5)

TECHNICAL SKILLS

Languages: C, Java, Node.js, jQuery, JavaScript, HTML/CSS, SQL, PHP
Platforms: Redshift and Netezza databases, Android Studio, Parallel Processing (MPI, CUDA, Open MP), Amazon Web Services (AWS) S3, Firebase, Excel-VBA, Arduino

PROJECTS

2018   **Recursive Ray Tracing Rendering**
- Developed rendering technique to generate an image by simulating effects of light and reflection on pixels in an image plane to produce a 2D depiction of a 3D scene

2018   **Snake Web Game** (https://user.tjhsst.edu/snakeGame/game)
- Created video game using HTML5 Canvas, jQuery, and SQL database to store user history

2016   **Canopy Analysis at Mason Neck National Park**
- Quantified percent canopy cover at over 100 plots in the park to correlate to deer population data

2015   **Earthquake Response Mobile Application Prototype**
- Led team to create a prototype of an emergency response app for earthquakes on Android Studio
- Utilizes USGS RSS feed to alert users and to document their location and status for rescue or triage

WORK EXPERIENCE

Summer 2018   **Intern at Hilton Corporation**   *McLean, VA*
- Investigated trends in customer preferences data compared to customer loyalty program tier level
- Prepared and delivered presentation to top level executives on findings
- Made a recommendation based on findings for mid-level hotels to be more responsive to customers
- Wrote SQL queries to analyze customer data sourced from Redshift and Netezza databases

Winter 2017   **Intern at Adept Technologies**   *Herndon, VA*
- Added a functionality to download files from the AWS S3 bucket for the Node.js-based financial planning web application
- Enhanced the readability and aesthetics of the user interface with HTML and CSS

2016-Present   **Founder of SpeakUp Academy** (https://speakupacademy.weebly.com/)   *Herndon, VA*
- Conducts classes for 3rd-8th graders about speech, political discussion, and current events
- Built website to market the class and facilitate student registration

Summer 2017   **Intern at Punita Group Inc.** (https://www.instagram.com/cameleonbags/)   *Sterling, VA*
- Assisted in documenting products, filing invoices, and was in charge of creating campaigns for social media marketing.

ACTIVITIES

2017-Present   **President of Bioengineering Projects Club**
- Set up an international collaboration between the NL Dalmia school in India to create a joint project pertaining to virtual reality and computer science
- Organized and mentor student teams for Conrad Challenge and Exploravision innovation competitions

2018-Present	**Core Director for GIVE Tutoring**
	• In charge of planning workshops and career fairs to help underprivileged students to explore projects and form a passion in science and engineering
2007-Present	**Art and Painting**
	• Created portfolio of works in graphite, ink, watercolor, acrylic, and other mediums for the past 11 years
	• Received multiple awards in national and regional art competitions and had works displayed in art exhibitions and galleries
2017-Present	**Women In Science and Engineering (WISE) Club**
	• Organized afterschool labs/experiments to teach young girls from Weyanoke Elementary School about STEM
2016-Present	**Future Problem Solving**
	• Competed in national and state-level challenges to create solutions for a presented issue on topics regarding identity theft and artificial intelligence
2016	**HackTJ Hackathon**
	• Created a prototype for a location service for loved ones in the event of a natural disaster
2015-16	**TJ JV Girls Soccer, Defensive Back**

COMMUNITY SERVICE

2017-18	**Columbia Elementary Tutor**
	• Assist 2nd-5th grade teachers at the low-income area school every Wednesday
2017-18	**Children's Science Center Volunteer**
	• Demonstrate interactive experiments to children at fairs and symposiums and teach them about various science concepts, from geology to physics
2016	**TJ Student Diversity Initiative**
	• Organized the outreach to lower-income elementary schools and transportation to TJ's annual tech symposium, Techstravaganza, to give them the ability to attend and tour the school

AWARDS

2016	**Conrad Spirit of Innovation Challenge National Finalist**
	• National finalist and Power Pitch awardee for earthquake safety application
2017-18	**Model United Nations, Philadelphia, PA**
	• Named Outstanding Delegate for the ILMUNC national conference in UPenn, Honorable Mention at WMHSMUN national conference at William & Mary
2018	**Bronze Level USA Computing Olympiad**
	• Competed for five hours of completing advanced computing problems in the bronze level
2018	**Congressional Art Competition, D-11** (http://www.fairfaxconnection.com/news/)
	• Awarded 6th place in the district for an ink rendition of a Saharan elephant
2016	**Future Problem Solving, State Bowl**
	• Honorable mention for creating an innovative solution for future problem scenarios regarding natural disaster and artificial intelligence
2018	**AP Scholar With Distinction**
2018	**National Scholastic Art & Writing Competition Awardee**
	• Won Honorable Mention in the nation for the Drawing/Illustration category

CERTIFICATIONS

CPR Certified (Red Cross), <u>Spanish</u>: Read and Write, <u>Hindi</u>: Conversational