ISHANA SHASTRI

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EDUCATION

Massachusetts Institute of Technology (MIT) **Cambridge, MA**

B.S. in Computer Science (Course 6-3) and Math (Course 18) • 5.0/5.0 GPA Expected 2023

Current Courses: Intro to Algorithms, Real Analysis, Intro to Machine Learning, Minds & Machines

Past Courses: Differential Equations, Discrete Math

Poolesville High School **Poolesville, MD**

Science, Math, and Computer Science Magnet Program • 3.96/4.0 GPA, 4.82/4.0 WGPA • 36/36 ACT May 2019

Relevant Courses: Fundamentals of Computer Science (Python), Algorithms & Data Structures (Java), Networking, Principles of Engineering, Mechanics, Electricity & Magnetism, Quantum Mechanics, Thermodynamics

EXPERIENCE

MIT Center for Brains, Minds, and Machines Module I • Undergraduate Researcher May 2020 – Present

- Investigating a novel optimization algorithm focused on finding a method to scale the normalization factor of a network

IBM Research Health Analytics Group • Undergraduate Researcher January 2020 – February 2020

- Developed a distance dependent Chinese Restaurant Process Gibbs sampler for 3D mesh segmentation in Python

Fondazione Bruno Kessler (FBK, Italy) • WebValley 2019 Research Fellow June 2019 – July 2019

- Built a cardiovascular disease progression model using CNNs, autoencoders, and other machine learning techniques on ultrasound images, tabular data, and the euroSCORE metric
- Led a team of four in developing preprocessing and analysis algorithms using UMAPs, ROCs, and the f1 score

George Washington University (GWU) Medical Imaging Lab • High School Researche*r* July 2018 – October 2018

- Independently developed a fast, sensitive, and non-invasive state-of-the-art machine learning algorithm to detect breast tumors in mammograms using fully convolutional neural networks programmed in MATLAB

Software Engineering Client Project • Project Manager and Software Developer March 2017 – June 2017

- Designed, programmed, and implemented an attendance log software in Java to ease front office processes at school
- Authored proposal (SPMP) and testing requirement document (SRS) to specify deliverables and deadlines for the project

LEADERSHIP

Machine Intelligence Community (MIC) • *Co-Chair of Generator Competition* April 2020 – Present

- Co-lead a year-long machine intelligence competition focused on facilitating and mentoring student projects

Women Business Leaders (WBL) • *Professional Development Chair for Entrepreneurship* February 2020 – Present

- Provide entrepreneurial resources, coordinate talks, and host workshops relating to startups and entrepreneurship at MIT

Girls in Engineering /Girls Just Want to Compute • *Founder and Teacher* April 2017 – Present

- Design and deliver curriculum about various engineering and computer science concepts for K-8 girls interested in STEM
- Wrote a grant proposal and was awarded $6.5k in funding from the Maryland State Department of Education

STEM Advocacy • *Individual Advocate* June 2018 – Present

- Coordinate meetings with Congressmen to discuss allocating STEM funding in underserved areas
- Contributed to the increased funding of ESSA Title IV, Part A and the Senate reauthorization of Perkins Act

AWARDS

Intel ISEF 3rd Place in Translational Medicine, Regeneron STS Scholar, US Presidential Scholar Semifinalist, Coca-Cola Scholar Semifinalist, NCWIT Aspirations in Computing National Honorable Mention & MD Fellow, FIRST World Championships Team

SKILLS AND INTERESTS

Programming (advanced): Python, Java, MATLAB, HTML, CSS, JS, TensorFlow, Keras, PyTorch

Programming (familiar): C++, Arduino C, Mathematica, React, Kotlin, Caffe

Design: Figma, InDesign, Photoshop, Premiere Pro, After Effects, SOLIDWORKS, OnShape

Math: Real Analysis, Linear Algebra, Discrete Math, Differential Equations, Multivariable Calculus

Interests: Entrepreneurship, Graphic Design, UI/UX, Healthcare, Dance, Classical Piano, Education, AR/VR