ISHANA SHASTRI

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Self-driven freshman attending the Massachusetts Institute of Technology interested in applying artificial intelligence to healthcare with extensive experience in research and engineering projects

EDUCATION

Massachusetts Institute of Technology **Cambridge, MA**

Candidate for B.S. in Computer Science (Course 6-3) and Math (18) with Minor in Biomedical Engineering (20) Expected 2023

Current Courses: Intro to Algorithms, Real Analysis, Intro to Probability, Engineering Innovation & Design, Minds & Machines

Past Courses: Differential Equations, Elementary Discrete Math, Intro to CS & Programming

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 Coursework: Vector Calculus, Fundamentals of Computer Science (Python), Algorithms & Data Structures (Java), Networking, Principles of Engineering, Mechanics, Electricity & Magnetism, Single-Variable Calculus, AP Statistics

EXPERIENCE

Machine Learning Research at the Health Analytics Group at IBM Research **Cambridge, MA**

Undergraduate Researcher January 2019 – Present

- Developed a distance dependent Chinese restaurant process (ddCRP) Gibbs sampler for 3D mesh segmentation in Python

Bioinformatics Research at Fondazione Bruno Kessler (FBK) **Casez, TN, Italy**

WebValley 2019 Research Fellow June 2019 – July 2019

- Built a comprehensive predictor of cardiovascular diseases using Convolutional Neural Networks, U-Nets, Autoencoders, Siamese Networks, and other machine learning techniques on ultrasound images, patient data, and the euroSCORE metric
- Led a team of four in developing preprocessing and post-training analysis algorithms using UMAPs, ROCs, and the f1 score

Machine Learning Research at the Medical Imaging Lab at George Washington University (GWU) **Washington, DC**

High School Researcher 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 **Poolesville, MD**

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

FIRST Robotics Competition (FRC) Team 4099 **Poolesville, MD**

Mentor and Whole Team Captain October 2016 – Present

- Provide mechanical and programming expertise to facilitate new team member learning
- Led a team of over 60 students in applying for corporate sponsorships and designing, prototyping, and building a $30,000 World Championship-level robot to participate in the year's competition

Girls in Engineering/Girls Just Want to Compute **Germantown, MD**

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 **Washington, DC**

Individual Advocate June 2018 – August 2019

- Coordinated 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

International: Intel ISEF 3rd Place in Translational Medical Science Category, FIRST World Championships Qualifying Team

National: Regeneron Science Talent Search Scholar, NCWIT Aspirations in Computing (Maryland Affiliate, National Honorable Mention), U.S. Presidential Scholar Semifinalist, Coca-Cola Scholar National Semifinalist

SKILLS

Programming (advanced): Python, Java, MATLAB, HTML, CSS, Jupyter Notebook, GitHub, TensorFlow, Keras, NumPy, Pandas

Programming (familiar): C, C++, Arduino C, Mathematica, JavaScript, PyTorch, React, Swift, Kotlin

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

OTHER INTERESTS: Entrepreneurship, Indian Fusion Dance, Classical Piano, Graphic Design, Skateboarding, Spanish, Italian