

MUHAMMAD HAMZA SHAMIM

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Education

The Science Academy of South Texas, Mercedes, TX

Expected Graduation June 2016

Current GPA 4.0

Relevant Coursework

Engineering Design and Development

Digital Electronics

Principles of Engineering

Calculus I and II AP

Physics II and III AP

Civil Engineering and Architecture

Chemistry AP

Biology AP

Experience

Rice Institute of Biosciences and Bioengineering Internship

June 2015

Conducted research with a graduate student analyzing the population structure of the *Mus Musculus* Domesticus species of house mice. Analyzed DNA SNP data from the VKORC1 region of chromosome 16 of 40 different samples of the species and performed various tests to predict migration patterns.

TSA Engineering Design Project

June 2015

Prototyped an innovative chair for patients with Osteoarthritis to help them settle into and rise out of their seat. Used Arduino to program the chair and 3D printed all of the components.

Summer Engineering Design Challenge at UTPA

June 2014

Research program for designing a biomimicry-inspired product. Constructed a prototype for a water extraction system which mimicked the structure of roots and used capillary action to extract groundwater.

Summer CEISMIC Program – Georgia Tech

June 2013

Summer program for Design and Innovations in Product Prototyping. Constructed and programmed Lego NXT devices to express different emotions upon human interaction.

Analyzing Human Reactions – Google Science Fair

Jan. 2012

Analyzed human reaction times to visual, auditory, and haptic stimuli using an Xbox Controller. Results showed faster reaction times for visual and haptic stimuli in preference over auditory stimuli.

Awards and Honors

National AP Scholar & AP Scholar with Distinction

July 2015

National Qualifiers for Engineering Design-TSA

June 2015

3rd place team in National Physics Bowl Region 2

Apr. 2015

2nd Place U.I.L District Number Sense and Math

Mar. 2015

Top 25 team in national NAT four by four event

Jan. 2015

AP Scholar with Honor

Nov. 2014

Rice University Math Competition Team 5th place Team

Feb. 2014

Top Dog of Digital Electronics

Dec. 2013

Texas A&M University Math Competition Team

Nov. 2013, 2012

3rd Place UIL Regional Number Sense Team, UT San Antonio

May 2014, Apr. 2013

Rice University Math Competition Team

Feb. 2014, 2013

Memberships and Additional Experience

Med Ed – UTHSCA Program

2013 – Present

University Interscholastic League (UIL)

2012 – Present

Number Sense, Mathematics, and Science

Mu Alpha Theta - Math Honors Society

2012 – Present

Peer Assistance and Learning Service (PALS) Club

2013 – Present

National Honor Society

2013 – Present

Technology Student Association (TSA)

2013 – Present

Experience with Java, Autodesk Inventor, Autodesk Revit, and NI Multisim

Fluent in English and Urdu (Hindi)