# ANISH ZUTE

Physics and Radio-TV-Film Student

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## Objective

Accomplished and eager-to-learn undergraduate with a strong basis in emerging technologies, such as ML, 3D visualization and VR|AR, looking to apply my unique combination of technical and creative knowledge to a part-time position in research or engineering.

## Skills

**Programming**
JAVA, Python, C#
MATLAB, LaTeX, Mathematica
Arduino, ARM mbed, BASIC
Machine Learning, TensorFlow

**Coursework**
Waves and Optics
Quantum Physics I, II, III
Classical Dynamics, Electrodynamics
Thermodynamics, Fluid Dynamics

**Engineering/3D Software**
3DS Max, Maya, Unity3D
Eagle, Solidworks, LabView, ANSYS
Vicon Blade, Boujou

**Creative**
Video Editing (Premiere, AVID, Final Cut)
VFX and Motion Graphics (AfterFX, Nuke)
DSLR Photography (Photoshop, Lightroom)
Cinematography/DP/Colorist (DaVinci)
Motion Capture/Virtual Reality

**Areas of Interest**
3D Visualization/Simulation
Machine Learning/Data Science
Aerospace Technologies

**Miscellaneous**
Fluent in Marathi
Proficient in German, Basic Hindi
Adept Pianist, Guitarist, Violist, Drummer
Practiced at Audio Engineering/Mixing
Skilled at Machining and Woodwork

## Accomplishments

- National Merit Commended Scholar
- CollegeBoard AP Scholar with Honor
- 35+ Hours towards Private Pilot's License
- American Sailing Association Certified
- UT Department of Mechanical Engineering Machine Shop Certification
- Integral lead in the foundation of multiple LLC companies.
- Video work featured on VEVO, MTV, VH1

- **Founding Officer and VP of Administration** for UT Programmers in Science and Engineering Club (PSE) (Fall/Spring 2016/17)
- **Captain** of the University of Texas Sailing Team (Spring 2017)
- **Media/Public Relations Officer** for the University of Texas Sailing Team (Spring 2015)
- **Social/Recruitment Officer** for the University of Texas Sailing Team (Fall 2016)

## Work and Project Experience

**UNDERGRADUATE TEACHING ASSISTANT –** UT Physics Department – Austin, TX – January – May 2017 | June 2018 – Present

- UGTA for the PHY353L Modern Physics Lab upper-division senior course under Dr. Greg O. Sitz and Dr. Daniel Heinzen.
- Mentoring students in the conduction of 20th century physics experiments in Quantum Mechanics and Relativistic Dynamics.
- Tasked with the upkeep of apparatus in the lab, including regular machining of new lab equipment and repairs of sensitive electronics.

**CHIEF ENGINEER –** Texas Guadaloop | UT Hyperloop Engineering – Austin, TX – August 2017 – January 2018

- Design lead on every facet of a hyperloop pod for SpaceX Competition III, including the propulsion, levitation, braking, structural, electronics, and controls subsystems on behalf of Texas Guadaloop, a 2017 SpaceX Innovation Award winning team.
- Coordinated design and implementation of a never-before-done large scale airbearing levitation system under provisional patent.
- Managed staffing and task delegation for the team, including upwards of 40 personnel, working closely with the Chief Executive.
- Networked personally on behalf of Hyperloop with tech industry sponsors such as ANSYS, Firefly Space Systems, and others.

**MISSION OPERATIONS DEVELOPMENT INTERN –** NASA Jet Propulsion Laboratory – Pasadena, CA – June 2017 – August 2017

- Planning and Execution Software Systems – Mission Systems and Operations intern under Dan Allard through the Caltech SFP/SURF.
- Developed a multimission Unity C# tool to aid spacecraft operators in visualizing spacecraft attitude, local mesh, and relay overflights, including visualization of relay occlusion due to surface terrain and deck. Planned implementation on Mars 2020, MSL, and InSight.
- Designed physics-based 3D MAYA visualizations of the current Mars Relay Network between Earth, Martian orbiters, and Martian landers working with the Mars Relay Operations Service (MaROS) and Deep Space Network teams for an instructional video.

**UNDERGRADUATE RESEARCH ASSISTANT** – UT Physics Department, Dr. Greg Sitz – Austin, TX – August 2018 – Present

- Designed an experiment to measure the decay parameters of para- and orthopositronium exotic atoms.
- Designing and building advanced laboratory equipment to aid surface scattering experiments, including a custom laser driver circuit.
- Aiding in the nominal operations of the active cryogenic scattering experiments conducted in the lab.

**FILM SCIENCE/TECH CONSULTANT** – *Parmanu: The Story of Pokhran* | Zee Studio – Mumbai, India – May 2017 – August 2017

- Remotely advised the pre-production, production, and post production teams on the intricacies of surveillance satellites and of nuclear weapons development for the major-studio Hindi language Netflix film *Parmanu*, a story of India's first nuclear test program.

**POWER AND SYSTEMS ENGINEER** – 512 Hyperloop – Austin, TX – September 2016 – August 2017

- **Project Lead** on the development of the pod stabilization power and control systems and the emergency braking control system.
- Coordinated as systems engineer liaison between the power and suspension teams to ensure proper integration of systems.
- Tested at SpaceX Competition II in August 2017 in Hawthorne, CA as one of only 0.36% of teams accepted into the final round.

**TECHNICAL/CREATIVE CONSULTANT** – Billafam United, LLC – Miami, FL – August 2011 – January 2016

- Integrally mentored during the foundation and licensing of the company.
- Collaborated closely with the CEO to plan, produce, and publish all of the company's creative media outputs
- Optimized with the financial manager to provide the best equipment, purchases, and amenities given the operating budget.

**FOUNDER/CEO** – AZ Cinematics – Houston, TX – 2011 – 2015

- Founded the multifaceted digital media entertainment company AZ Cinematics as a freshman in high school.
- Provided advanced video production, photography, graphic design, web design, and audio production to a wide variety of clients.
- Work has been featured on VEVO, MTV, and VH1 channels on numerous occasions.
- Clients include: ASAP Ferg (Sony Music Entertainment), Alanz Inc., Billafam United, Travis Scott.

**STUDIO AND EQUIPMENT MANAGER** – Texas Student Television – Austin, TX – June 2015 – December 2015

- Managed and maintained the operation of the professional live video studio and control room at an FCC licensed television station.
- Coordinated equipment rentals for the productions division of TSTV.
- Led the training new employees on proper equipment handling, including video editing, live studio operations, tricaster, sound mixing, and advanced camera operation.
- Oversaw the renovation of the entire live studio and control room and helped install and catalogue new equipment.

**CHIEF LIGHTING TECHNICIAN/GAFFER** – Longhorn Latenight – Austin, TX – August 2014 – December 2015

- Managed lighting and colour for the FCC-licensed live television show Longhorn Latenight at Texas Student Television.
- Provided technical assistance in all aspects of the live production, including camera management and tricaster broadcast systems.
- In charge of training new employees on proper equipment handling, including video editing, live studio operations, tricaster, sound mixing, and advanced camera operation for the show.

## Education

**B.S. IN PHYSICS** – The University of Texas at Austin – Austin, TX – Expected Graduation: Spring 2020

- Specialization: Experimental/Applied Physics
- Areas of Interest: Nuclear Physics, Quantum Optics, Software Engineering

**B.S. IN RADIO-TELEVISION-FILM** – The University of Texas at Austin – Austin, TX – 2014-2019

- Specialization: Advanced Visual Effects, 3D Simulation, Modeling and Animation
- Areas of Interest: Motion Capture, 3D Simulations, 3D Modeling, Virtual Reality