

# Justin Shetty

Ann Arbor, MI, USA, Earth

☎ (+1) 201-359-0838 | ✉ jusshe@umich.edu | 🏠 justinshetty.com | 📱 justinshetty | 🌐 justinshetty

## Education

### University of Michigan

B.S.E. IN COMPUTER ENGINEERING | GPA: 3.960

### Bergen County Academies

ACADEMY FOR ENGINEERING AND DESIGN TECHNOLOGY

Ann Arbor, MI

Expected April 2019

Hackensack, NJ

June 2016

## Projects & Experience

### NASA Goddard Space Flight Center

CUBESATELLITE DEVELOPMENT INTERN

- Working in the Component Hardware Systems Branch on the hardware development of solid fuel vacuum arc ion thrusters with a variety of applications including formation flying in LEO
- Responsibilities include development, manufacture, and testing of thruster configurations and accompanying electronics (power supply and plasma arc generation unit).

Greenbelt, MD

Jun. 2017 -

### Michigan Exploration Lab

SOFTWARE ENGINEER

- Primarily work with the STRATO high-altitude balloon subteam and cubesatellite C&DH software
- Completed extensive preparation work for August 2017 launch of still image and video payloads to observe the Great American Eclipse (organized by Montana State University)
- Improved upon existing data logging and exchange modules for TBEx mission

Ann Arbor, MI

Feb. 2017 -

### Data Collection and Storage Methods on the Arduino

RESEARCH ASSISTANT | SPONSOR: PROF. ANNA C. GILBERT, U OF MICHIGAN DEPT. OF MATHEMATICS

- Implementing an existing sublinearly-efficient sampling algorithm (Gilbert, Strauss, and Tropp) on the Arduino platform for possible use in Internet of Things (IoT) applications
- Built using the Arduino C-variant and C++ style external libraries
- Upon completion, the implementation will be tested alongside the existing MATLAB implementation for performance benchmarks

Ann Arbor, MI

Oct. 2016 -

### Recon Industrial Controls Corporation

SOFTWARE INTERN

- Primarily focused on repackaging LabRecon software in newer versions of the WINE compatibility environment to work with latest versions of Mac OS
- Developed software to run on the ESP8266 chip in order serve web pages and handle serial communication with LabRecon board
- Utilized a tablet-hosted WiFi network as a means of interfacing with LabRecon experimenter chip

Englewood, NJ

Sep. 2015 - Jun. 2016

### hackBCA Director of Logistics

HACKATHON ORGANIZER

- Member of Board of Directors for the third iteration of hackBCA, one of the nation's first high school hackathons and first high school hackathon to be included in the MLH hackathon season schedule
- Managed the expenditure of \$13,000 of resources and food for the hackathon, which drew in over 500 attendees
- Handled the event schedule, venue arrangements, food distribution, staff communication, chaperone assignment, and other issues as they arose

Hackensack, NJ

Apr. 2015 - Apr. 2016

### Locating and Identifying Viable Asteroids (LIVA)

GROUP RESEARCH PROJECT

- Part of the NASA ICED initiative introduced by Dr. Charlie Camarda
- Prototyped and built an instrument package with a custom printed circuit board and accompanying software to detect presence of water in asteroids
- Collaborated with Kokutai-ji High School in Hiroshima, Japan with support from the Japanese Ministry of Education

Hackensack, NJ / Hiroshima, Japan

Apr. 2014 - Nov. 2014

### E-Camp Director

CAMP ORGANIZER

- Organized and ran E-Camp, an annual week-long program for the 30+ incoming freshman in the Bergen County Academies's engineering program
- Along with three other directors, handled the organization of the camp which included determining the schedule of activities and purchasing \$2800 of supplies in addition to traditional counselor duties

Hackensack, NJ

Apr. 2013 - Aug. 2015

## **Presentations**

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### **Super Science High School Convention**

- Presented collaborative work alongside Kokutai-ji High School students in front of over 1,500 individuals from across Japan at the Hiroshima International Conference Hall.

*Hiroshima, Japan*

*Nov. 2014*

### **AIAA Young, Professional, Student, and Educator Conference**

- Presented work on LIVA asteroid water detection sensor package before AIAA Region 1 members.

*Laurel, MD*

*Nov. 2015*

## **Skills**

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Java • Python • HTML/CSS • Arduino • MATLAB • Mathematica • TeX

Windows/Mac/Linux • Microsoft Office • Autodesk Inventor • Adobe Photoshop • Sony Vegas Pro

## **Leadership**

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hackBCA Director of Logistics (2015-16)

JSA Chapter Director of Political Activism (2014-15)

BCA 2016 Class Council Secretary (2014-15)

## **Coursework**

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Electronics for Atmospheric and Space Measurements

Programming and Data Structures

Discrete Math, Dynamics and Vibrations

## **Honors**

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Bergen County Academies Engineering Award (2016)

National Honor Society (2014-16)

## **Interests**

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Photography, Strategy Games

History, Automotive Tuning