

# Tarun Punnoose

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## EDUCATION

### TJHSST

#### SENIOR

Expected Jun 2016 | Alexandria, VA

#### ACTIVITIES

- Excelsior Aerospace Club
- Advanced Rocketry Team
- Rocketry Club
- Science Olympiad
- Hackathons (HackRU at Rutgers, yHack at Yale, and MHacks V and VI at UMich)

## COURSEWORK

### HIGH SCHOOL

- AP Physics C Mechanics
- AP Physics C E & M
- Prototyping/Energy Systems Senior Research
- Digital Electronics
- Analog Electronics
- Energy Systems 1 and 2
- AP Computer Science
- Web Application Development

## SKILLS

### GENERAL

- Aircraft and Multirotor Design
- Analog Electronics
- Digital Electronics
- HAM Radio License

### PROGRAMMING

- Java
- C
- Perl
- JavaScript
- Python
- HTML/CSS

### CAD/CAM

- AutoCAD and Fusion 360
- SolidWorks

## EXPERIENCE

### UDVAR HAZY AIR AND SPACE MUSEUM | EXPLAINER (STAFF)

Oct 2013 – Present | Chantilly, VA

- Educate the public about aeronautics and space
- Engage visitors with hands-on activities

### NASA GODDARD | INNOVATION LAB INTERN

Jun 2015 – Jul 2015 | Greenbelt, MD

- Completed the lower level electronics and programming to interface with a small scale robotic arm
- Helped design and build hardware surrounding the robotic arm
- Created an image processing program with OpenCV that gave target coordinates to the arm

### US NAVAL OBSERVATORY | ASTRONOMICAL APPLICATIONS INTERN

Jun 2014 – Aug 2014 | Washington, DC

- Developed and tested astronomical data calculators for the data services page
- Completely remade the Phases of the Moon Calculator and the Complete Sun and Moon Data for One Day services
- Made these two data services into APIs that return JSON
- <http://bit.ly/AAMoonPhase> and <http://bit.ly/AARiseSet>
- Used 6" refracting telescope to measure sunspot number for AAVSO

### TJ EXCELSIOR AEROSPACE CLUB | Co-PRESIDENT

Sep 2014 – Present | Alexandria, VA

- Lead club in aerospace related competitions, projects, and outreach activities
- Lead an ambitious initiative to create UAS applications
- Compete in college level rocketry competition, Battle of the Rockets
- <http://bit.ly/ExcelsiorAerospace>

## AWARDS

- Best Use of MongoDB at HackRU 2014
- Best Use of Virtual Reality at MHacks V
- 26 Science Olympiad Medals
- TARC National Tournament Qualifier
- Battle of the Rockets 2<sup>nd</sup> place

## PROJECTS

- Computer vision based autonomous landing system for quadcopter
- Designed and built quadcopter
- Multitude of other RC plane, multirotor, and UAV projects
- InstaFood, a Pebble app that lets you order food quickly (made at HackRU 2014 and winner of MongoDB prize)
- Meta-Drone, a quadcopter controlled using Meta-AR glasses (made at MHacks V and winner of Virtual Reality prize)