Gautham Viswaroopan

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US Citizen, Active Confidential Clearance

EDUCATION

University of Colorado Boulder **Aug 2013 -Dec 2017**

- Bachelor of Science, Mechanical Engineering [BSME] **(3.31 Technical GPA)**
- Minor in *Astrophysics and Planetary Sciences* **(3.27 Technical GPA)**
- *Engineering Honors Program , Engineering Leadership Program, CU International Ambassador*

TECHNICAL SKILLS

- **HARDWARE**: Operate basic and industrious lab equipment - 3D printers, Lasers, CNC (G-code), waterjet, Lathe, Mills
- **SOFTWARE**: ***LabVIEW***, ***MATLAB***, CAD/CAM, ***SolidWorks*** (Certified), *OpenRocket*, *ANSYS*, ***Arduino***, *Fritzing*, *Altium*
- Hexalingual fluency ~ Malayalam, Tamil, Hindi, English, French, Spanish; Beginning [Arabic, Italian, Portuguese]
- **CERTS:** National Association of Rocketry Level 2 certification; **Intellectual Patent claim** for 3D additive manufacturing

LAB EXPERIENCE

University of Colorado Boulder ***(Aug 2013 – Present)***

1) **CAD/ Manufacturing Engineer**, *Laboratory for Atmospheric and Space Physics (LASP)* **(Mar 2016 - Present)**

- Design and manufacture rigid-body, solid-fuel sports rockets [J-L motors] from scratch
- All designs are original with space and mass calculations relevant to *CoG* and *CoP* (withstands max of 2833 N of thrust)
- Body of rockets are professionally made by scratch ~ cardboard and acrylic; glassed and sanded with carbon fiber and epoxy
- Previous rocket used for fluid dynamics **AIAA paper**** **~** pressure-variation analyzation and rigid-body dynamics

2) **Systems Engineer**, *Unspun* **(Aug 2016 – May 2017)**

- BSME Senior Design Project with Startup Corporation ~ 3D fabrication automation machine for fabric recycling
- Manufactured, and Automated systems functioning the machine (3D printer similarities)
- Designs composed through *Solidworks*, *Altium*, and *Fritzing* for manufactured body and wiring setup of automation
- Programming for 3D fabrication designed with Arduino, functioning similar to CNC / G-Code and mechatronics
- Project selected for ***Senior Design Expo Finalist, H&M Foundation Award*** **and** ***Global Change Award****

3) **Satellite Vicarious Calibration Intern**, *DigitalGlobe* **[** Longmont, CO] **(Aug 2014 – Aug 2017)**

- Internship via Colorado NASA SPACE GRANT CONSORTIUM
- Analyzing quantity of reflected heat from the Earth's surface using black/white tarp
- Vicarious calibration deploys ~ monitor radiometric performance of Digital Globe constellation(WorldView, GeoEYE)
- Enhanced and calibrated data for ***NOAA*** to increase accuracy of atmospheric pressure/pollution readings
- Set up multi-filter rotation shadow-band radiometer & measurements taken and analyzed using a spectro-radiometer

4) **Experimental Aero-physics Test Engineer**, *NASA Ames Research Center, Fluid Mechanics Lab* [N260] **(Summer 2015)**

- Operated High Speed Wind Tunnels ~ analyzed aerodynamic measurements of boundary layer transitions
- Calibrated/validated measurements through laser-based molecular scattering system
- ***LabVIEW*** & **MATLAB** - automated system to collect data; **300% more time-efficient vs manually, program published****

5) **[President /Project Director**, ***CUSEDS*** **]–** *CU Students in the Exploration and Development of Space* **(2013 - Present)**

- ***SpaceX Hyperloop*** **CAD engineer** ~ maglev train commuting in vacuum tunnel at 740 mph ~ **Finalists** at Top 10% of 2600
  - Lead team of 48, applied engineering knowledge to structural design using *Ansys* & *SolidWorks* -Final Design Package
- **NASA Rover project Mfg Engineer** ~ autonomously functioned bogie-system over snow using beacon sensors ~ 4th place

***** Research requires clearance, can provide details in person with caveats***