

ASHWIN SIVAKUMAR

Purdue University Ph.D Candidate

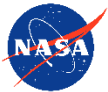
DoD Secret Clearance (Interim Top Secret)

PROFESSIONAL EXPERIENCE

U.S. AIR FORCE

U.S. Air Force Reserve Officers' Training Corps**West Lafayette, IN**Pilot and Cadet*August 2016 – Present*

- Vice Wing Commander – responsible for executing Air Education objectives for 200+ cadets.
- Physical Training Leader – 7,000 man-hours of military training for over 170 cadets
- Meritorious Service Award – Top 10% of Air Science Class (top 2/29), awarded by Wing O-6
- Squadron Commander – Most Outstanding Large Squadron of 131 squadrons and 3,100 cadets
- Private Pilot License in progress – Solo Completed – 28.8 hours

**Three-Time NASA Intern****Langley Research Center, VA**Virginia Space Grant Consortium Scholar*November 2015 – July 2017*

- Committed to helping over 120 students in all aspects of space flight with NASA Flight Test Engineers at NASA Langley Research Center for over 13,000 man-hours over two weeks
- Soft skills, engineering, orbital mechanics, computer science, intro to Markov Chain Monte Carlo and team-building skills to develop mock NASA missions, presenting concept of operations to corporate leaders (NOAA, SRA, Northrop-Grumman)
- Distinctions from Virginia 3rd District Congressmen, U.S. Senator, Governor of NASA Langley

**NASA Human Exploration Rover Challenge****West Lafayette, IN**Drivetrain Team Specialist*October 2019 – Present*

- Build and design from scratch a human-powered rover to traverse Martian terrain
- Work with design teams using CAD Fusion360 to order parts and manufacture rover in 3 months



Kimberly-Clark

Kimberly-Clark**West Lafayette, IN**Engineering Design Project*October 2016 – December 2016*

- Submitted innovative design for recyclable, green, public paper towel dispensing via remote sensing technology using MATLAB and Office programs to Kimberly-Clark engineers

**Amazon Logistics****Dulles, VA**Professional Delivery Associate*May 2019 – August 2019*

- A lynch-pin of Amazon Logistics DDC4 pilot program in training delivery associates. Delivering hundreds of smiles daily to Amazon customers, businesses, and private citizens in the Washington D.C. Metro Area.

**Purdue University****West Lafayette, IN**Personal Trainer*December 2018 – August 2020*

- Develop detail-oriented, high-quality fitness plans to change the lifestyles of clients of all ages

**Purdue University****West Lafayette, IN**Supplemental Instruction (SI) Leader*August 2020 – December 2020*

- Create and host supplemental lectures for AAE340 designed to foster student success

EDUCATION**Purdue University: B.S. in Aerospace Engineering****West Lafayette, IN***Aerospace Engineering GPA: 3.40**August 2016 – December 2020*

- Chancellor's List Award Recipient
- Three-time Dean's List Award Recipient

Thomas Jefferson Sci/Tech. (2013-2014 U.S. News #1 Public School)**Alexandria, VA***Advanced Technical Diploma GPA: 3.998**August 2013 – May 2016*

RELEVANT COURSEWORK

Aerodynamics: Navier-Stokes, Boeing Wind Tunnel Lab, Boundary Layer, Thin Airfoil, and Prandtl Lifting-Line theories, conv-div nozzle flows, shock expansion theory; sub/supersonic linearized theory, transonic flow, hypersonic flow, laminar-turbulent BL transition, intro to plasma aerodynamics

Flight Dynamics and Controls: MATLAB & Simulink, discrete Fourier transform, Laplacian transform, state space systems, observability and controllability, Simulink Flight models, s-functions, transfer functions, mass-spring dampers, Root Locus, Two Degree-of-Freedom Helicopter Model, Bode/Nyquist plots, PID Controllers, Compensators

Propulsion and Thermodynamics: Turbomachinery, Centrifugal compressors, Axial compressors, Inlet guide vanes, Multistate compression cycles, Air-breathing engines, Turbojets, Turboprops, Turbofan, Ramjet/Scramjet engines, conductive, transient, convective heat transfer, conv-div nozzles, Rankine, Otto, Diesel, Brayton cycles, Psychrometric cycles, Multi-stage/regeneration/reheating, Equations of State, Ideal gas departure, Perfect/Imperfect Combustion

Structures: Stress and strain, deformation, twisting, bending moments, Plane elasticity, Prandtl compatibility, Euler-Bernoulli theory, flexural shear flow, ductile materials, failure criterion

HUMANITARIAN EFFORTS

Habitat for Humanity

Poverty Alleviation

Lafayette, IN

October 2016 – May 2018

- Worked with CEO Doug Taylor to build homes for Purple Heart Veterans; over 1140 man-hours

ADDITIONAL SKILLS AND CERTIFICATIONS

- MATLAB & Simulink, ANSYS, AutoCAD, CATIA, C, Microsoft Excel, Office Programs, EES
- Currently learning STK, SolidWorks, Autodesk Fusion360, 2D and 3D CREO
- Department of Defense Secret Security Clearance (Interim Top Secret)
- Languages: Spanish, Hindi, Tamil
- American Red Cross CPR/AED Certified
- Private Pilot Student License