Vineeth Vooppala
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EDUCATION

Bachelor of Science, Mechanical & Aerospace Engineering (Double Major)   May 2018
University at Buffalo, The State University of New York   **GPA: 3.538/4.0**

Relevant Coursework:
Aerodynamics; Intro to Propulsion; Aircraft Design; Fluid Dynamics; Dynamic Systems; Machines & Mechanisms, Manufacturing Processes; Thermodynamics; Heat Transfer; Mechanics of Solids; Statics; Intermediate Dynamics; Dynamics; Spacecraft Dynamics; Engineering Materials; Numerical Analysis; Calculus, Differential Equations

Skills:
Computer Skills: Windows OS, Linux OS, Microsoft Office Suite
Foreign languages: Telugu, Spanish

Programming Languages: MATLAB, Simulink, C/C++, G&M code, HTML, Python
Drafting Programs: AutoCAD(Autodesk), Creo/ Creo Parametric, Mastercam, ANSYS, Solidworks, CATIA
Simulation Skills: FEA, CFD, FDS
Electronics Skills: General Knowledge, PLC Programming

PROJECTS

Flying Wing Drone   2014- Present
- Creating an experimental UAS capable of sustained flight at low speeds
- Created Wing structure approximately 6ft long with a mass of 300g
- Tested power plant in homemade rig

Satellite Orbit Dynamics/Kinematics   Spring 2018
- Created Matlab code to model both attitude kinematics and orbital dynamics of the WMAP satellite.

Fighter Jet Design   Spring 2018
- Worked as part of a team to design a fighter jet.
- Use of RDSwin

Supersonic Airfoil Analysis \ Aerospike Engine Analysis   Fall 2017
- Using CFD software and theoretical analysis, both a supersonic airfoil and a aerospike engine are examined.

Confined Fire Analysis   Fall 2017
- Used FDS and theory to predict the behavior of a fire when confined by various ceiling heights.

Turbojet Computer Analysis   Spring 2017
- Created MATLAB model to analyze performance of a turbojet engine at various Mach numbers and compression parameters simultaneously.

Dresser-Rand/Siemens Power Coupling Optimization   Fall 2016 – Spring 2017
- Created CAD model to analyze stresses during assembly and dis-assembly on a smooth bore high interference fit coupling for use in the oil and gas industry.
- Created website to showcase results.

Inertial Load Sensor   Spring 2016
- Ultrasonic sensor and accelerometer calibrated to measure acceleration loads
- Programmed Arduino max7219 to read sensor output and activate warning light

Step Pump Analysis/Re-design   Spring 2016
- Super Moneymaker Pump, a kickstarter product, analyzed for stresses
- Predicted fatigue life and redesigned accordingly for easier operation

Wind Tunnel Testing of Airfoil   Spring 2016
- Tested airfoil in wind tunnel to find coefficient of lift and drag.
- Used wake analysis and force balance to measure forces on airfoils
- Processed data using MATLAB

Husqvarna Chainsaw Production Analysis   Spring 2016
- Husqvarna chainsaw analyzed for means of production
- Redesigns created for new parts, improved fatigue life.

Thermodynamic Analysis of GE 7FA Gas Turbine   Fall 2014
- Created Thermodynamic Model of GE 7FA gas turbine using excel
- Calculated burn conditions for expected power output and expected thermal efficiency

Wind Turbine Design   Fall 2013
- Assembled a wind turbine using commonly available materials
- Improved the initial power output by 575 times

33rd National Engineers Week: 2013 Bridge Competition   Spring 2013
- Constructed a model bridge. Bridge had a mass of 72g and held a maximum load of 100 lbs.
- Used CAD to both design and test the model for strength and failure points.

Turner Constructions, Bridge Design Competition   Spring 2012
- Worked with a team to design a proposal for a bridge which was to be constructed over lock 19 (1842) on the Erie Canal.

CERTIFICATIONS

-Private Pilot   Total: 120.8 Hours
Single Engine Land   PIC: 64.2 Hours
3rd Class Medical
Instrument Rating

EXPERIENCE

Student Assistant
University at Buffalo – Buffalo, NY   August 2017 – May 2018
Worked as a student grader, supervised testing, performed grading, and aided in management of class scores and grades.

Volunteer IT/Lab Assistant
Ellis Hospital – Schenectady, NY   Jun 2012 - Aug 2012
Volunteered at Ellis Hospital as Lab assistant. Duties included
delivering mail, calibrating lab equipment, and servicing broken
equipment.

Clubs

UB Pilots Association   Fall 2017 – Spring 2018
Supervised and instructed club members and visitors in the use of the
simulator and used experience as a pilot to give basic introduction to
flight.

UB SEDS (Students for the Exploration and Development of Space)   Fall 2013 – Spring 2018
Worked with other students to design and build rockets and test stands
to test rocket motors as part of the IREC propulsion team.