

Vineeth Vooppala  
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## EDUCATION

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**Bachelor of Science, Mechanical & Aerospace Engineering** (Double Major)  
University at Buffalo, The State University of New York

May 2018  
**GPA: 3.517/4.0**

Relevant Coursework:

Aerodynamics; Intro to Propulsion; Fluid Dynamics; Dynamic Systems; Machines & Mechanisms, Manufacturing Processes; Thermodynamics; Heat Transfer; Mechanics of Solids; Statics; Intermediate Dynamics; 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, PLC Programming  
**Drafting Programs:** AutoCAD(Autodesk), Creo/ Creo Parametric, Mastercam, ANSYS, Solidworks, CATIA  
Simulation Skills: FEA, CFD, FDS

## PROJECTS

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### 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

### 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

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**-Private Pilot**  
 Single Engine Land  
 3<sup>rd</sup> Class Medical  
 Instrument Rating

Total: 107.6 Hours  
 PIC: 52.6 Hours

## EXPERIENCE

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### **Student Assistant**

**University at Buffalo – Buffalo, NY**

Fall 2017 - Present

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.

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## **Clubs**

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### **UB Pilots Association**

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.

Fall 2017 – Spring 2018

### **UB SEDS (Students for the Exploration and Development of Space)**

Worked with other students to design and build rockets and test stands to test rocket motors as part of the IREC propulsion team.

Fall 2013 – Spring 2018