**Dhruv Aggarwal**

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**Objective:** To gain industry experience through a summer internship in the field of software development and data analytics

**Education:**

* Purdue University, West Lafayette, IN May 2020
* Bachelor of Science in Computer Engineering

**Technical Skills:**

* Software : Python, Matlab, C, Energy 3D, GitHub, MS Excel, MS PowerPoint, X-Plane
* Hardware : Linear Circuit Analysis, Verilog, OrCAD, CPLD
* Operation Systems : Linux, MacOS High Sierra, Windows 8.1

**Projects:**

**Unmanned Aerial Vehicle (UAV) : Precision Algorithm for Takeoff and Landing** Jan 2018 - Present

* Developed an autopilot algorithm on MATLAB for takeoff and landing of an UAV
* Identified waypoints and targets for testing the algorithm in complex scenarios
* Simulated and tested the algorithm on X-Plane to assess real time compatibility and avoid overload

**Data Analytics & Data Cleansing : Linear plotting of complex Thermocouple Data** Mar 2017 – May 2017

* Developed a data cleansing algorithm on MATLAB to cleanse two sets of Thermocouple data of 10,000 data points each in MS Excel
* Analyzed linear plots of each thermocouple to compare critical metrics and identify the most efficient thermocouple
* Wrote a technical brief (MS Word) on critical findings and presented (MS PowerPoint) the summary to the participating teams

**Solar Energy and Environment Sustainability : Generate Solar Power using car batteries** Nov 2016 – Dec 2016

* Conducted an in depth analysis of over 50 potential solutions to improve environmental sustainability, and identified the final solution based on feasibility, cost, availability of resources and additional complexities
* Researched extensively on existing solar technology and its effects on environmental sustainability
* Designed an end to end process to extract lead in perovskite cells from car batteries and use it to generate solar power
* Identified potential challenges and milestones and presented findings to the participating teams

**Solar Energy and Statistics : Least Cost Solution for solar panel placement (Winner)** Sep 2016 – Nov 2016

* Built the most efficient house compared to all participants which met the stated constraints by producing maximum energy, consuming least, while reducing cost
* Identified key drivers to energy conservation and production e.g., sun position, wall / window thickness, architectural constraints, floors, tree positioning, number of occupants, seasons, temperature control etc.
* Conducted over 100 build scenarios and tested each with different parameters to arrive at the final solution
* Identified the equation with key variables and used statistics to calculate and test solutions

**Professional Experience :**

* **Campus Resident Tour Guide, IN** Jan 2018 - Present

Provide quality tours to university residences guests

* **Purdue Boiler Gold Rush, Orientation Leader, IN** Apr 2017 - Aug 2017

Helped new incoming freshmen transition and adjust to challenges of college life

* **Regal Cinemas, Theatre Crew, NJ** Jul 2015 - Dec 2016

Performed multiple roles at box office, concession stand to create a smooth & pleasant customer experience

**Supporting Leadership Experience / Skills :**

* Research and Development :NASA Robotics and Mining Competition, autonomous Lunar/Martian Robotic development
* Team Building : Intramural sports, Marching band, Cricket team
* Volunteer : Leo Visionary Youth Club, NJ Veterans Memorial Home, HindiUSA

**Honors Society Membership and Awards :**

* Member of National Honors Society, Social Studies Honors Society and National Technical Honors Society
* Recipient of Leo International Gold Award for community service