**PRANJAL SINHA**

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**Education**

**University of Illinois at Urbana-Champaign |** Grainger College of Engineering*May 2021*

Bachelor of Science, Mechanical Engineering*GPA: 3.91/4.00*

Minor in Computer Science

**Comillas Pontifical University ICAI |** Engineering Exchange Program, Madrid, Spain *Spring 2019*

**Relevant Coursework:** Statics, Introductory Solid Mechanics, Introductory Dynamics, Thermodynamics, Engineering Materials, Electric and Electronic Circuits, Design for Manufacturability, Mechanical Design I, Fluid Dynamics

Work Experience

Energy Transport Research Laboratory (ETRL) | *Undergraduate Research Assistant* *Urbana, IL | June 2019 – Present*

Researched behavior of microdroplets on superhydrophic surfaces for potential implications of phase change heat transfer

Manipulated voltage, droplet diameter, and number of droplets to obtain a trend in droplet liftoff

Compiled data using MATLAB to find acceleration and trajectory of droplets, obtained accelerations as high as approximately 50 m/ under a 5 kV voltage

PROJECT Highlights

Aerodynamics Package (Rear Wing), Illini Formula Electric *Champaign, IL | Fall 2018*

Implemented a competitive rear wing to decrease in drag by 15 lbs, increasing lap time by 0.2 seconds

Fabricated rear wing element molds for carbon fiber inserts using CNC milling machine

Instructed a team of 3 students during carbon fiber setups in autoclave, produced a rear wing element of only 0.4 lbs

Presented team’s ideas to receive feedback on designs and improve integration with other subsystems

**S’mores Machine, Society of Engineering Mechanics** *Champaign, IL |**Fall 2017 – Spring 2018*

Designed a Marshmallow Dispenser, enabling quick turnover of marshmallows

Deployed Arduino to control servo motors, allowing independent operation once in use

Refined design of S’mores Machine to reduce weight and improve visual appearance

Served over 600 S’mores to students and children during Engineering Open House

**Ergonomic Mouse Handle, Design for Manufacturability** *Champaign, IL |**Fall 2018*

* Constructed a PDS and QFD Matrix to delineate major points regarding design/development of product
* Utilized rapid prototyping to fabricate various handle designs which were later tested in Design of Experiments (DOE)
* Calculated an increase in retail price by approximately $0.45 using aPriori, still undercutting competitor costs

LEadership

**Society of Engineering Mechanics |** *Social Chair**Champaign, IL | August 2017 – Present*

* Coordinated social events for members and joint engineering organizations to promote comradery between students
* Created and overlooked a social committee to teach students how to plan and set up social events

Participated in Engineering Open House as a representative of SEM to recruit new members

Instructed new members on how to operate Autodesk Inventor to design various parts for specific projects

**Pi Tau Sigma, Alpha Chapter |** *Alumni Relations Chair**Champaign, IL* ***|*** *August 2018 – Present*

* Invited to join PTS based on 3.5 GPA or higher during Fall 2018 semester
* Responsible for connecting with alumni and inviting them to share work with current students
* Raised money at a fundraising barbecue for Brother’s Brother Foundation to benefit victims of recent hurricanes

Skills

**Software:** PTC Creo Parametric, Autodesk Inventor, SolidWorks, aPriori, Adobe InDesign, Microsoft Office

**Programming Languages:** Java, Python (beginner), MATLAB, HTML, CSS

**Languages:** English (Native),Hindi (Conversational), French (Fluent), Spanish (Beginner)

**Fabrication:** 3D Printing, Laser Cutting, Soldering, Machining, Composites Manufacturing, GD&T, DFMA, DOE