Kapil Mangrolia

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PROFILE: Fifth year mechanical engineering student with passions for design, programming, and computational simulation seeking an full-time position for Summer 2021

EDUCATION

Bachelor of Science, Mechanical Engineering **May 2021**
Computational Science and Engineering Certificate Program
Business Foundations Minor
The University of Texas at Austin
GPA: 3.57/4.00

EXPERIENCE & PROJECTS

ConocoPhillips Inventors Program (UT Austin) Aug 2020 – Dec 2020

- Determined mechanical predictors of rod pump failure in pumpjack systems using data analytics
- Managed a group to analyze ConocoPhillips data to determine ideal rod pump design via Jupyter
- Communicated results to ConocoPhillips representatives via a live presentation and 5 page report

RC Car (UT Austin) Jan 2020 – May 2020

- Managed a group to create an RC car with 20 different STL files using SolidWorks
- Performed a CFD to determine drag on a custom aerodynamic car body using SolidWorks
- Conducted static FEA analysis to determine impact forces on the RC car using SolidWorks
- Executed fatigue analysis to determine failure on the axle of the RC car using SolidWorks
- Authored a thirty page report about the design process and various mechanical elements

Wooden Catapult (UT Austin) Aug 2019 – Dec 2019

- Directed a group creating a wooden catapult capable of hitting a target over twenty feet away
- Generated eleven different STL files using SolidWorks
- Programmed two Arduino codes that can control an accelerometer and a force sensitive resistor
- Authored a forty-five-page report about the analysis of various dynamic theories via a catapult

Japanese Arcade Controller (UT Austin) May 2019 – Aug 2019

- Designed 3-D printed prototypes of an ergonomic Japanese arcade controller
- Published on official UT-Austin media through Texas Inventionworks as an outstanding project
- Produced four different orthographic drawings using drafting techniques
- Generated eight different STL files using SolidWorks
- Developed twenty-seven different sized scale prototypes with a CraftBot and GigaBot 3-D printer

SKILLS

- Proficient in Python 3, R, Jupyter, SolidWorks, MATLAB, Arduino, CraftWare, and MS Excel
- Experienced in SQL, LabVIEW, and Multisim

ACCOMPLISHMENTS

- Eric & Deborah Gonzalez Endowed Presidential Scholarship recipient (Aug 2019 – May 2020)
- Active member, Pi Tau Sigma Honor Society (Aug 2018 – Present)

Employability Status: **US Citizen**