Daniel **Rhyoo**

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EXPERIENCE

Honda R&D, OH
Engineering Intern in VS1 (Body CAE)
MAY 2018 – AUGUST 2018

- Designed and created a tool from the ground up (mechanical, electrical, and software) that automatically tests components up to 175kN by real-time reading strain gauge sensors and controlling motors through an easy to use touch interface
- Performed an investigative CAE into a component by 3D scanning, re-modeling, CAE, and validating results using physical testing

GE Aviation, OH
Engineering Intern in Continuous Engine Operation Data
MAY 2017 – AUGUST 2017

- Developed tools, like historical trend graphs, data filtering, etc., for Flight Phase Analyzer (GE's web/Predix based analytic viewer) using JS and R Shiny
- Created a prediction model (logistic regression w/ CV, stepAIC, etc.) for estimating maintenance duration based on multiple engine module parameters using Python and R
- Created a cost analysis report on potential savings in modifying data intake process
- Developed a web tool to automate and standardize the creation of value story presentations

WET Design, CA
Product Development and Engineering Intern
JUNE 2016 – AUGUST 2016

- Designed and machined experimental valves that emphasized simple mechanisms and low cost
- Created and programmed data loggers to remotely monitor test rigs for long periods of time
- Designed and prototyped a full redesign of an existing product that lowered cost and ease of serviceability/installation with two team members

MechSE Department of UIUC, IL
ESPL Lab Assistant
FEBRUARY 2017 – PRESENT

- Maintain student laboratory's machine shop

Freelance
PRESENT

- Designed and machined custom carbon fiber quadcopter frames for clients
- Programmed UI/UX of client's website that required login, searching users, and group selection

LEADERSHIP EXPERIENCE

IFE: Formula SAE Electric Team
AUGUST 2016 – PRESENT

Manufacturing Captain (2017 – Present)

- Designed and manufactured a CNC plasma tube profiler, accumulator box, and mounts
- Worked on establishing a simulation/DAQ-Analysis system through remote server
- Created and programmed multiple data loggers for recording the car's temperature, acceleration/gyro, wheel RPM, pressure, etc.

Suspension & Chassis Subsystem Member (2016 - 2017)

- Pioneered use of topology optimization software, Inspire, in the team to minimize weight on bell cranks (Weight saving: ~45% from base model) and other parts
- Designed and manufactured a custom carbon fiber steering wheel, adjustable/folding, and jacking bar
- Assembled and TIG welded car and parts like aluminum accumulator container
- Modified/ran passing FEA for 20kN accumulator mounting points

PROJECTS (MORE ON DANIELRHYOO.COM)

Foldable, In-Hub Motor Longboard (2016)

- Design only, worked in 4-person team for ME170 Final Design Project using Creo 3.0
- Motor designed to be direct drive and housed in rear wheels

Brushless DSLR Gimbal (2015)

- Carbon fiber gimbal that can stabilize a camera up to 1.5kg in 2-axis; received over 110k views

EDUCATION

University of Illinois at Urbana-Champaign
EXPECTED GRADUATION:
MAY 2020
B.S. in Mechanical Engineering

AWARDS

Class 1st Place in Automata Walker Race
ME370 Final Competition
by UIUC MechSE

Ford Blue Oval Scholarship
by UIUC & Ford

Outstanding Achievement Award for Excellence in Engineering Design
ME170 CAD Design Award
by UIUC MechSE

SKILLS

CAD
Solidworks
Creo 3.0
Catia
Inventor

Analysis
Solidthinking Inspire
Solidworks FEA
Abaqus
NASTRAN
ANSA

CAM
Experience in a machine shop
(Mill, Lathe, CNC, Waterjet, TIG)
Intelli-Max CAM
InventorCAM
HSMworks CAM
SheetCam

Programming
JavaScript
Python
R Shiny
NodeJS
Java
SQL
C++