



Pedro Fernandez Jr.

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EDUCATION

University of Illinois at Chicago (UIC) - Chicago, IL	<i>Expected: May 2021</i>
<i>Bachelor of Science - Mechanical Engineering, Honors Student</i>	GPA: 3.70/4.0
Harold Washington Community College - Chicago, IL	<i>Graduated December 2018</i>
<i>Associates in General Studies, Honors Student</i>	GPA: 3.89/4.0

SKILLS

Programming Skills: MATLAB | Python | Excel | Simulink | Flexible IQT Software | MNOVA | Simca | Arduino | R |
Operating Systems: Linux/Gromacs | Windows 10 | Unix OS |
CAD/FEA: SolidWorks | Fusion 360 | Ansys |

WORK EXPERIENCE AND INTERNSHIPS

High Pressure Shock Tube Laboratory - *Research Intern, UIC* *January 2021 - Present*

- Preparing and testing the ignition quality and behavior of hydrocarbon fuels
- Simulating fuel combustion reactions with an Ignition Quality Tester (IQT) to determine Ignition Delay (ID) Time and applying parametric studies to investigate the effect of combustion properties on fuel behavior

General Electric Aviation - *Technical Intern, Chicago, Illinois* *July 2020 - August 2020*

- Acquired broad industry and leadership training on the following
 - Leadership: Communication, Design Thinking, Project Management, LEAN, Six Sigma
 - Technical: Jet engine mechanics, supply chain, quality control, sourcing, power systems
- Engaged in simulated New Product Introduction (NPI) process for a mid-size, commercial plane, engine market

Shirly Ryan AbilityLab - *Research Intern, Chicago, Illinois* *August 2019 - December 2019*

- Researched the mechanics of an assistive arm rehabilitation device via MATLAB for improving motor skills

Institute of Nanobiology and Structural Biology - *Research Intern, Czech Republic* *June 2019 - August 2019*

- Generated molecular dynamic simulations of protein folding through Linux/Gromacs and analyzed the effects of varying macromolecules on the process

Brighton Park Neighborhood Council (BPNC) - *College Mentor, Chicago, Illinois* *October 2018 - May 2019*

- Mentored 15 freshmen students at risk of dropping out, resulting in improved GPA's and studying skills

Princeton University - *Research Intern, Princeton, New Jersey* *June 2018 - August 2018*

- Computed and analyzed the metabolic profiles of horses to identify early indicators of laminitis manifestation

PROJECTS

SpaceX Hyperloop Pod Competition - *Senior Design Team Lead, UIC* *August 2020 - Present*

- Researching, designing, testing, and manufacturing suspension mechanisms and chassis compatible with the Linear Induction Motor, levitation, and other components necessary to create a new form of transportation pod

Desert Hyperloop Competition - *Chicago Hyperloop Suspension Lead, UIC* *August 2020 - December 2020*

- Team lead for the development of suspension mechanism for the manufactured motorized hyperloop pod though the utilization of Fusion 360 for design and ANSYS for structural and thermodynamic feasibility studies

NASA Community College Aerospace Scholar Program (NCAS) - *Scholar, Langley Research Center* *April 2019*

- Facilitated a team-based rover competition and received broad NASA technology training.

PROFESSIONAL AFFILIATION

Chicago Hyperloop - <i>Suspension Team Lead</i>	<i>August 2020 - Present</i>
Society of Hispanic Professional Engineers (SHPE) - <i>Mentor</i>	<i>January 2019 - Present</i>
Institute of Electrical and Electronic Engineers (IEEE) - <i>Secretary</i>	<i>May 2019 - May 2020</i>