Silvia Daniella Martinez Piche

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EDUCATION

Old Dominion University | Norfolk, VA May 2025
Bachelor of Science
Major: Mechanical Engineering
Concentration: Aerospace Engineering

RELEVANT COURSEWORK

Flight Mechanics, Flight Vehicle Aerodynamics, Introduction to Finite Element Analysis, Electromechanical Systems, Dynamic Systems and Control, Heat and Mass Transfer, Thermodynamics I & II, Computational Methods in Mechanical Engineering, Mechanics of Fluids, Dynamics, Materials Science, Engineering Mechanics I-Statics, Engineering Mechanics I & II-Solid Mechanics, Engineering Graphics for Mechanical Engineering Design, Explore Engineering Technology, Intro to Engineering MGMT, Ethics Philosophy Engineering, Problem Solving and Programming I, Probability and Statistics, Ordinary Differential Equations, Mechanical Engineering Design I & II, Global Conversations, Writing Around The World, University Physics I & II, Foundations of Chemistry I, College Algebra, Precalculus I & II, Calculus I & II & III.

TECHNICAL SKILLS

Personal Skills:
Leadership, Problem-solving, Active listening, Communication, Collaboration/Teamwork, Adaptability, Creativity, Attention to detail, Compassion, Organizational, Time management, Responsable, Critical thinking, Interpersonal, Analytical/Quantitative, Intercultural, Patience.
Computer Programming and Coding:
Waveform software, Programming languages Autodesk Inventor, Altair HyperMesh, Networking, Hardware, Testing, Controls, Product Development.
Productivity Software Applications:
Microsoft Office Suites, Ability to learn new software, Graphic design, Presentation software, Digital marketing, Cloud computing, Machine learning.
Research & Data Analysis:
Documentation, Calculating, Database design, Modeling, Data analytics, Data visualization, Computer proficiency, Systems, Equipment, Sketching.
Mechanical & Aerospace:
Project design, Problem-solving, Outcome with different tests projects, Project testing results to ensure proper functionality, Device construction.
Electrical:
Dynamic mechanism, Diode circuits, Transistor circuits, Signal amplification, Switch circuits, Voltage divider networks, Thevenin equivalent circuits.

LANGUAGE SKILLS

Spanish and English.

EXPERIENCES

Engineering Graphics and Computer Solid Modeling 01/2023-05/2023

- The project involved creating an electromechanical robot tiger with different functions and electromagnetic varieties that had to move and perform various functions. I studied virtual reality simulations, graphic models, and computer programming skills.
- Through graphical and mathematical models, virtual reality simulations, software development, and data analysis; I acquired the skills necessary to create a design concept and test it in real-world conditions.

Computational Methods in Mechanical Engineering 06/2023-12/2023

- The project involved using different types of language programming to achieve different objectives, such as cars turning in circles, following a pattern of functionality, and performing various functions.

- Numerical algorithms were implemented to solve practical problems in mechanical engineering, such as those found in solid mechanics, fluid mechanics, dynamics, and heat transfer.

Electromechanical Systems 01/2024-05/2024

- The project involves working with electrical diagrams, diode circuits, transistor-based signals, and amplification and switching circuits.
- The purpose was to implement the circuits in mechanical engineering devices, systems and analyze series-connected resistors, parallel-connected resistors, voltage divider networks, Thevenin equivalent circuits, and RC low-pass filters.

Advanced Structural Supports for Heat Loss Reduction in Cryogenic Tanks 06/2024-05/2025

- The project focuses on developing an advanced, tensegrity-based cryogenic support system that leverages cutting-edge materials and structural innovation to minimize heat ingress and optimize mass-to-volume ratios.
- The design incorporates advanced composites with low thermal conductivity to further enhance the thermal efficiency of the structure. The use of these materials, combined with the tensegrity framework, makes the system highly adaptable to the extreme conditions of cislunar and lunar environments, including temperature fluctuations and radiation exposure.
- The goal is not to revolutionize cryogenic storage, we believe that applying tensegrity principles offers practical improvements to current technology, with the potential for near-term application.

LEADERSHIP AND INVOLVEMENT

Early Engineering Advantage Program | Norfolk, Virginia 06/2020 – Present
Member

- EEAP students participate in targeted activities that expose them to the field of engineering.
- EEAP is credited with helping ODU have the most significant percentage of female engineering.
- It helps young women entering engineering build a community with one another.
- Participate in engineering activities, and take trips to area industry groups.
- This organization allows us women engineers to work as a team.

Phi Eta Sigma | Norfolk, Virginia 01/2021 – Present
Member

- Invited to be a member of the honor society based on academic performance.
- The honor societies assembly associations based on leadership techniques.
- Students and their peers volunteer in their communities.
- Participate in membership activities such as meetings and volunteer opportunities.
- It is an organization that helps train leaders within the university community.

The National Society of Leadership and Success | Norfolk, Virginia 12/2022 – Present
Member

- Invited to be a member of the honor society based on academic performance.
- NSLS is an organization that helps students achieve personal growth.
- NSLS primary focus is for students to achieve professional success.
- NSLS promotes leadership to other people.

LeADERS High Impact Learning for a High Impact Future | Norfolk, Virginia 05/2023 – Present
Member

- Invited to be a member of the honor society based on academic performance.
- Developing strong communication skills.
- Provide programs and training to help individuals cultivate leadership skills.
- Improve their abilities to lead teams.
- Guide organizations towards achieving their goals.

HONORS AND AWARDS

First Year Scholar Certificate of Academic Excellence | Old Dominion University 2020-2021
Certificate of Academic Excellence | Old Dominion University 2022-2023
The Leadership Lecture Series | Old Dominion University 2023-2024
Certificate of Academic Excellence | Old Dominion University 2023-2024
Gidley Legacy Scholarship 2022-2025
ODU Crown Scholarship 2020-2024
Merit Scholarship Award 2020-2024