

Javier A. Cuevas Chabrier

PROFESSIONAL
PORTFOLIO

PROJECTS
PRESENTATION



About Me

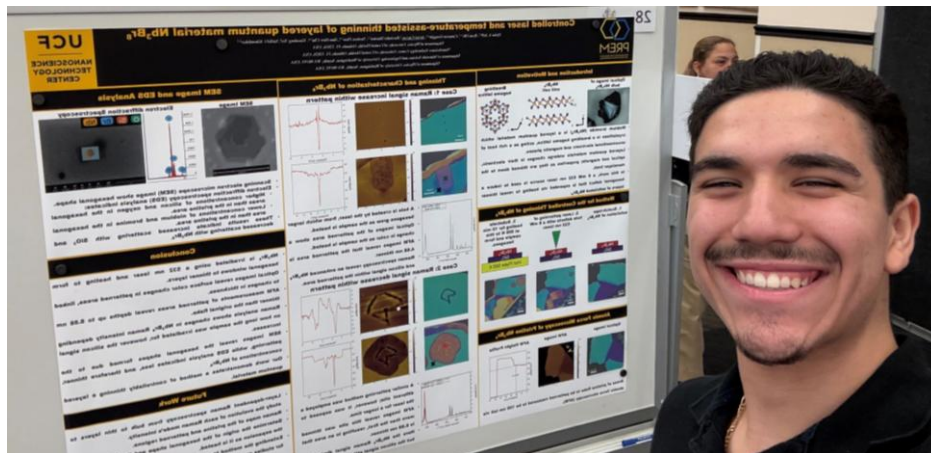
Interests/Hobbies:

- I love sports.
- I like to learn/apply myself to different challenges.
- I like to code in different languages.
- Implementing Artificial Intelligence into Engineering Applications.
- Making software that solves easy yet time-consuming tasks.
- I like Chinese food.

Plans:

- Obtain Mechanical Engineering B.S. by 2027, Computer Science B.S. by 2028.
- Achieve M.S. Or Ph.D. in Mechanical Engineering post undergrad.

Timeline



Currently:

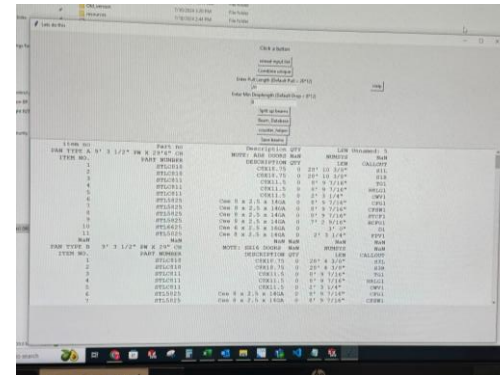
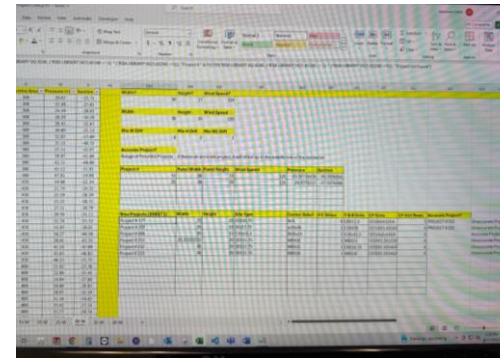
- Studying at University of Central Florida working to obtain two bachelor degrees.
- Conducting research as a PREM Scholar.
- Conducting research under Propulsion and Energy Research Lab.
- Conducting research under Professor Eikenberry of CREOL department.
- Involved in Society of Hispanic Professional Engineers UCF, Knights Experimental Rocketry, and Knights Racing BAJA SAE.

Previously:

- Studied perovskites at FSU as a research assistant
- Worked for Well Bilt Industries as an engineering intern.
- 5+ years of CAD experience.

Experience | Well Bilt Industries

- Developed Python program that would organize Excel sheets with beam data for faster manufacturing purposes and appropriate shipping (cut list management).
- Created Excel sheet that would make calculations for general doors and locate previous doors that would meet user parameters.
 - Outputs two tables: general dimensions and dimensions based on previous projects.
 - Determines what door is most accurate to user input.
- Utilized Risa – Structural Analysis to determine what beams were most appropriate for each project after calculating wind loads using Excel Sheet.
- Leveraged SolidWorks to complete drawings of hangar doors and their respective parts. Handled large assemblies, sub-assemblies, and configurations to create drawings before and after client approval.





Experience | Code Meets Bagel

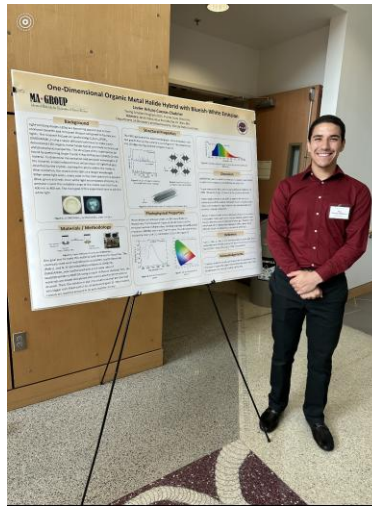
- Designed, developed, and integrated an AI-powered Slack bot using Python, OpenAI, and Anthropic APIs to automate key marketing workflows and improve team communication.
- Integrated GitHub workflows to manage version control and continuous deployment, ensuring a smooth development process and scalability.
- Strengthened my experience in API integration, automation, and AI-assisted task management within collaborative environments.



Experience | CWEP – Lockheed Martin

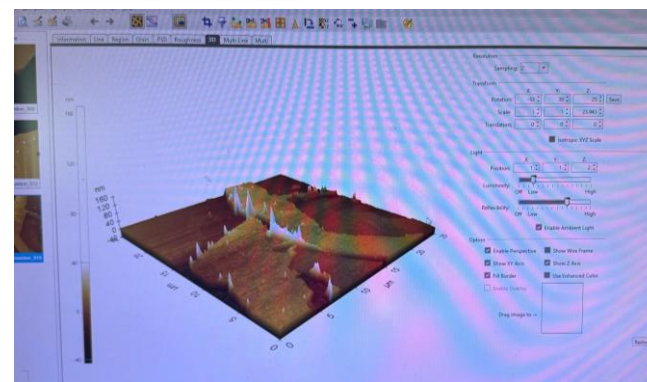
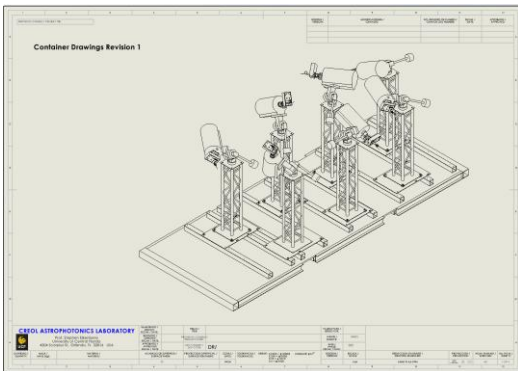
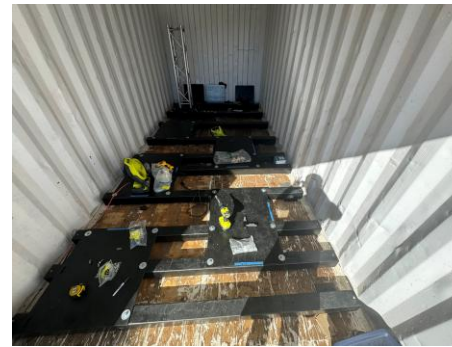
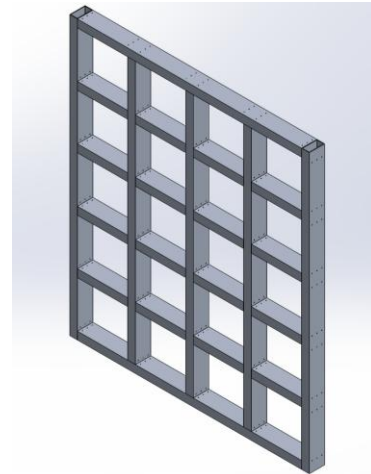
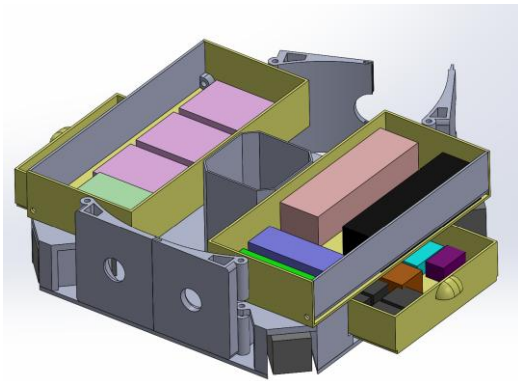
- Working under the University of Central Florida as a CWEP contractor for Lockheed Martin.
- Develop Python-based plugins used within Cameo Systems Modeler.
- Use Cameo Systems Modeler to model client projects using plugins.
- Work alongside System and Software Engineers to automate time-consuming tasks within Cameo through the use of Plugins.
- Read and interpreted C++ plugins for identifying specified Inputs, Outputs, Publications, and Subscriptions parameters within projects.

Experience | FSU YSP



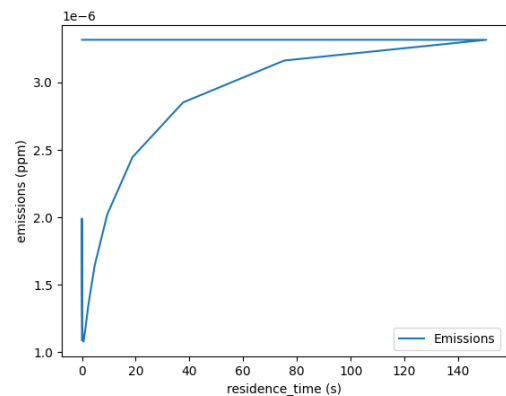
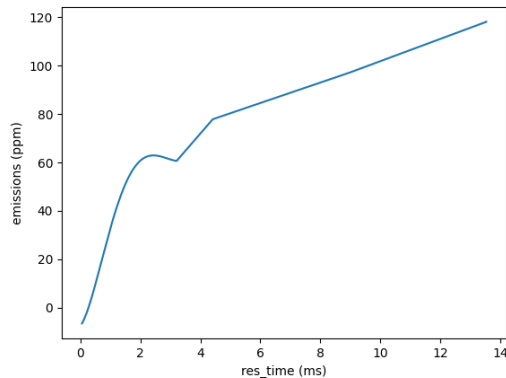
- Worked under Professor Biwu Ma of the Biochemistry Department to learn about perovskites and their applications to light Emitting Diodes (LED's).
- Learned basic concepts of materials science/materials engineering/chemical engineering that assisted in the understanding of intermolecular forces.
- Presented my thesis and conclusion to other Professors and Graduate students.

Experience | UCF Research



- Working under Professor Eikenberry of the Astrophysics/Optics and Photonics department to develop a Telescoping assembly for studying the solar flares of stars.
- Working under Professor Elgohary of the Aerospace engineering Department to study orbital path efficiency using ROSS.
- Working under Professor Khondaker of the Physics department, studying quantum materials and making quantum devices.

Experience | UCF Research



Input Type	CH4	H2	axial air	axial air.1
fuel/oxidizer	Fuel	Fuel	Oxidizer	Oxidizer
mass flow	0.000829	0.000104	0.03018	0.03018
choke diam (in)	0.032	0.019	0.113	0.113
# of orfices	1	1	1	1
discharge	0.867	0.87	0.93	0.93
R	518.2785	4124.483	286.9	286.9
Gamma	1.32	1.4	1.4	1.4
Temperature (K)			623.15	623.15
Is Main	yes	no	no	no
output type	CH4	H2	axial air	axial air.1
density	3.259283	0.409558	2.832036	2.832036
q	0.000254	0.000253	0.010657	0.010657
choke area	5.19E-07	1.83E-07	6.47E-06	6.47E-06
pressure pa	1083163	1056531	3098532	3098532
pressure psia	157.0995	153.2367	449.4039	449.4039
pressure psig	142.3995	138.5367	434.7039	434.7039
choked?	YES	YES	YES	YES

Working under Professor Kareem Ahmed.

Working on a script geared towards calculating emissions with respect to residence time using Cantera library.

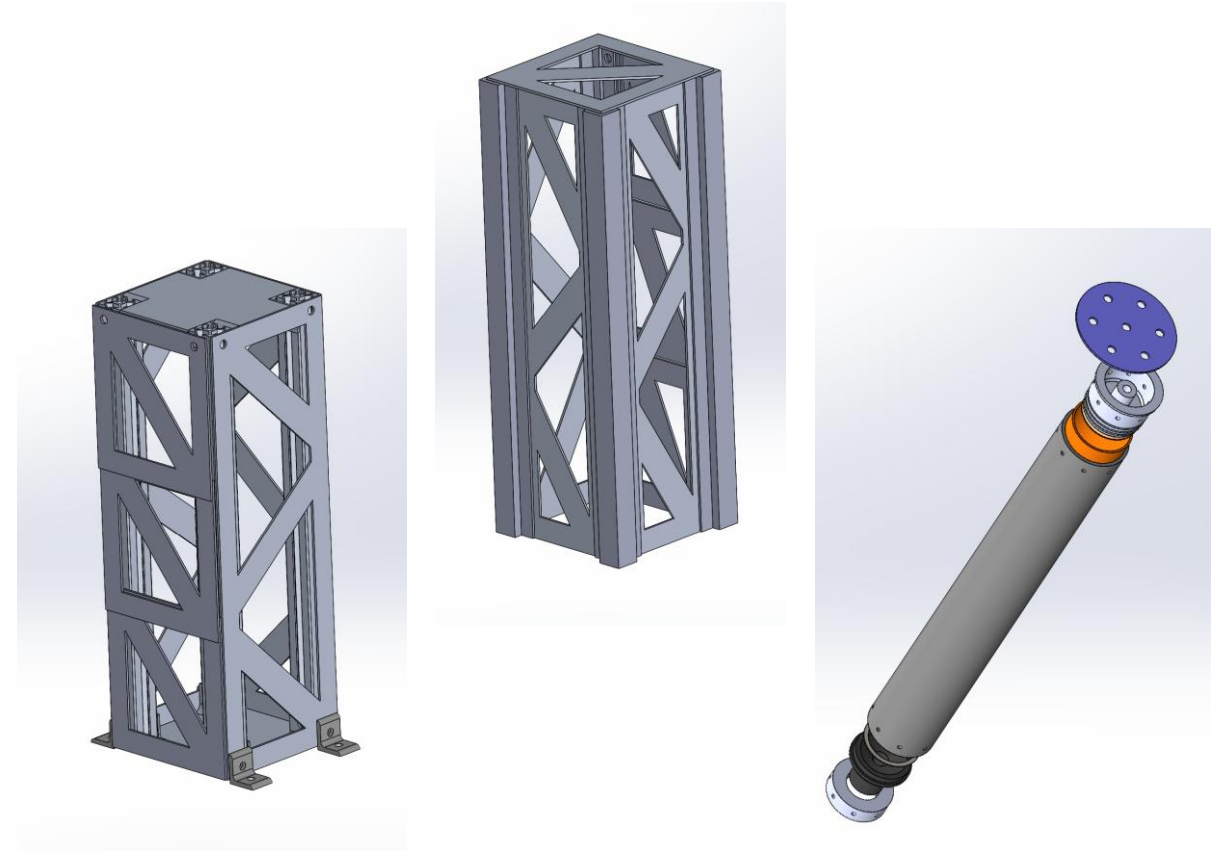
Studying the flashback phenomena of hydrogen fuel.

Developed a Python condition calculator that reads json inputs and outputs standardized facility run parameters to reach choked-flow conditions and meet mission requirements.

Assisted in the design and build of axial stage engine.

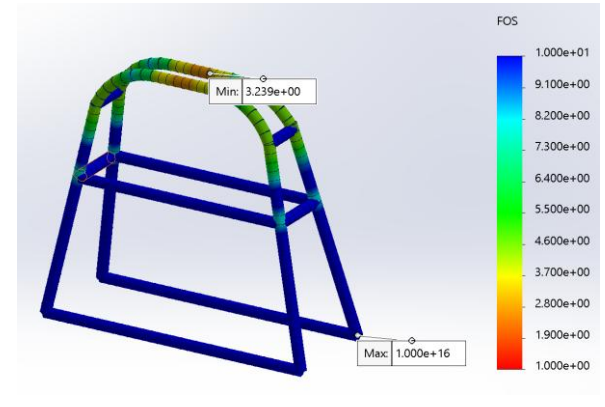
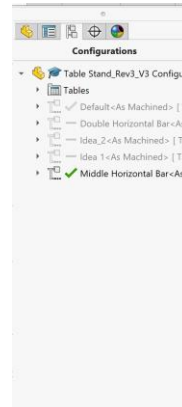
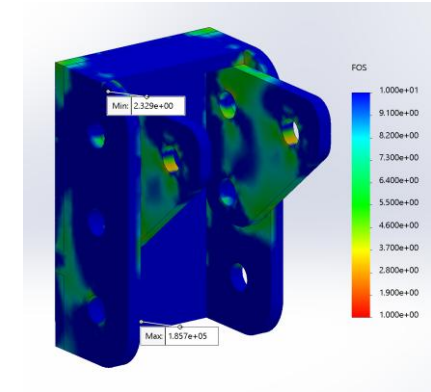
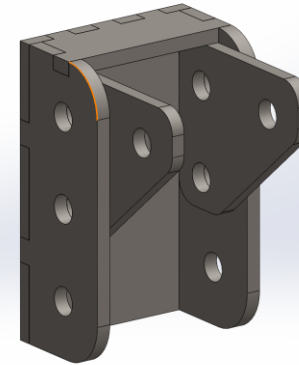
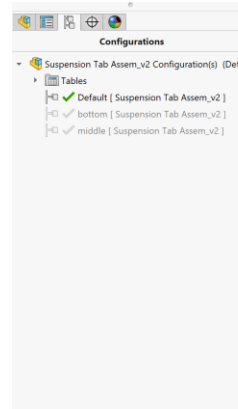
Experience | Knight Experimental Rocketry

- Propulsion Lead: Applied basic rocketry principles (heat transfer, bolt stress, axial stress, thrust, and impulse) and implemented an effective layout of the system.
 - Delegated tasks to design and edit a preliminary design of the propulsion system.
 - Managed the master assembly for the propulsion system.
 - Built and tested propulsion chamber through static fires.
- Payload Team: Created a preliminary design for the payload frame, utilizing resources such as McMaster and NASA's 3u CubeSat to develop my ideas.
- Working towards obtaining L1 certification.

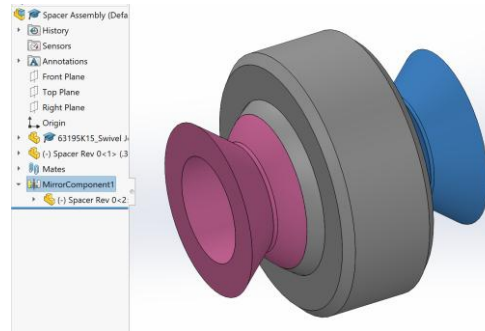
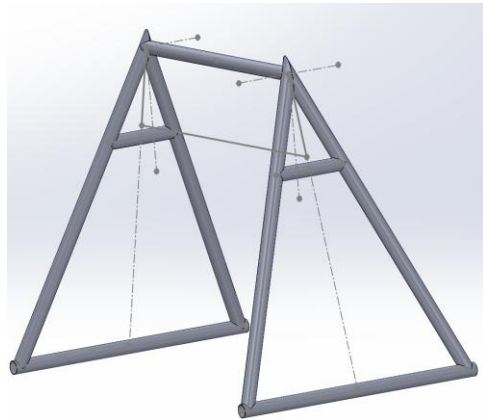
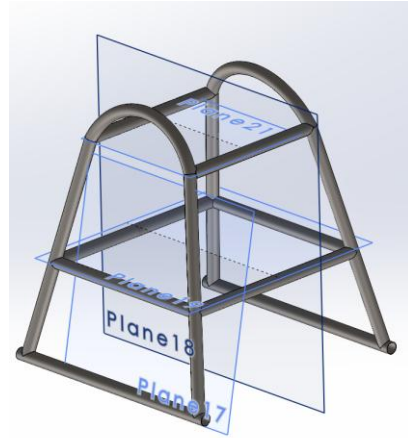
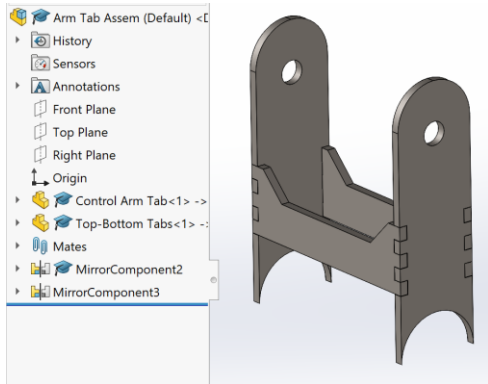


Experience | Knights Racing Baja SAE

- Through small member projects, contributed to the overall design of the Baja SAE car for the 24'-25' academic year.
 - Spacer for suspension
 - Suspension tabs for suspension
 - Stand to hold car up for maintenance
 - Arm Tabs
- Conducted FEA analysis on parts to determine if they were able to withstand forces given a certain material.

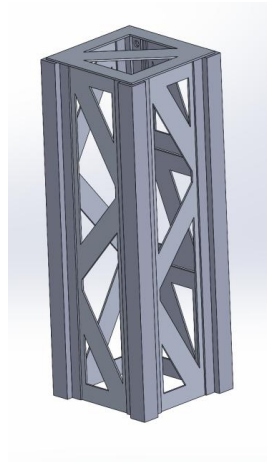
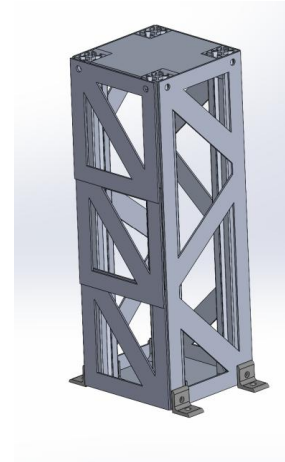


Experience | Knights Racing Baja SAE

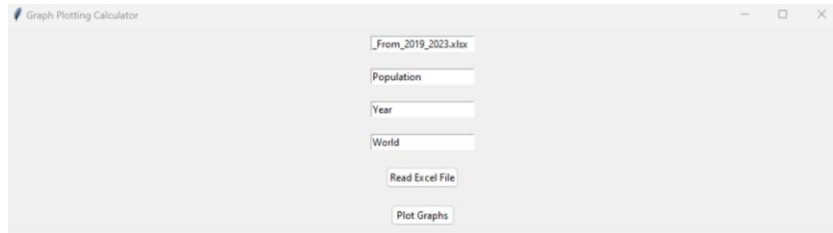


Experience | Society of Hispanic Professional Engineers

- Projects Committee – Payloads Team/Member
 - SHPE x KXR Collaboration: Designed a preliminary payload frame for the IREC 24'-25' team.
 - Payload frame optimized storage/allowed for easy accessibility for internal components/provided stability.
 - Learned basic Arduino code and helped others understand basic concepts in SolidWorks.
- Professional Development – ResearchSHPE Co-Director
 - Coordinated events with my team to help students learn the importance of research and other opportunities.
- Outreach Committee – Volunteer Director
 - Reached out to organizations for volunteering opportunities.
 - Held meetings to discuss possible collaboration events
 - Participated in various outreach events.



Experience | Personal Projects



Year	World	Africa	Northern Africa	Sub-Saharan Africa	Eastern Africa	Southern Africa	Western Africa	Northern America	Central America	Caribbean/Latin America	South America	Asia	Europe	Oceania	Polynesia
2019	7764951.032	1327701.163	247023.018	1080677.346	437462.042	66420.716	397826.430	371967.922	174800.777	646846.757	428318.160	4628967.395	746189.645	43278.150	707.346
2020	7840952.880	1360677.231	251417.771	1109259.460	449292.465	67272.182	408124.919	373956.671	176343.832	651836.122	431530.044	4664324.075	746225.356	43933.425	711.813
2021	7909295.151	1425706.329	255737.736	1137938.708	461141.845	67984.554	418544.337	375278.947	177661.929	656098.097	434254.119	4694576.167	745173.774	44491.724	717.467
2022	7975105.156	1426736.305	259969.946	1166746.359	473004.847	68590.690	429084.925	376570.696	179060.359	660269.074	436516.607	4722634.764	743555.765	45038.552	723.490
2023	8045311.447	1460481.772	264205.998	1196275.774	485066.925	69235.158	439868.541	378904.407	180643.728	664997.121	439719.008	4753079.727	742272.652	45575.768	730.009

```
C Business_Main.c
1 // Author: Javier Cuevas
2 // Purpose: To use libraries from header files to access data
3
4 #include <stdio.h>
5 #include <stdlib.h>
6 #include <string.h>
7 #include "Business_Header.h"
8 #include "Clients.c"
9 #include "Products.c"
10 #include "Business.c"
11
12 //TODO: Edit business functions and set template for clientMain and productMain
13
14 int main(int argc, char **argv) {
15
16     int access = 0;
17
18     printf("\nThis program was made to manage business/client/product information.");
19
20     while (1) {
21         printf("\nWhat information would you like to access?\n1. business\n2. client\n3. product\n4. ");
22         printf("\nResponse: ");
23         scanf("%d", &access); // Never forget the &
24
25         if (access == 1) {
26             businessMain();
27         }
28     }
29 }
```

- Made Python executable that would generate scatter plots based on Excel data.
- Developed C programs to strengthen foundational programming and logic skills, including one that calculates x-intercepts and y-values for quadratic functions and another that simulates a simplified dominoes game. These projects demonstrate problem-solving, algorithm design, and practical application of core C programming concepts.

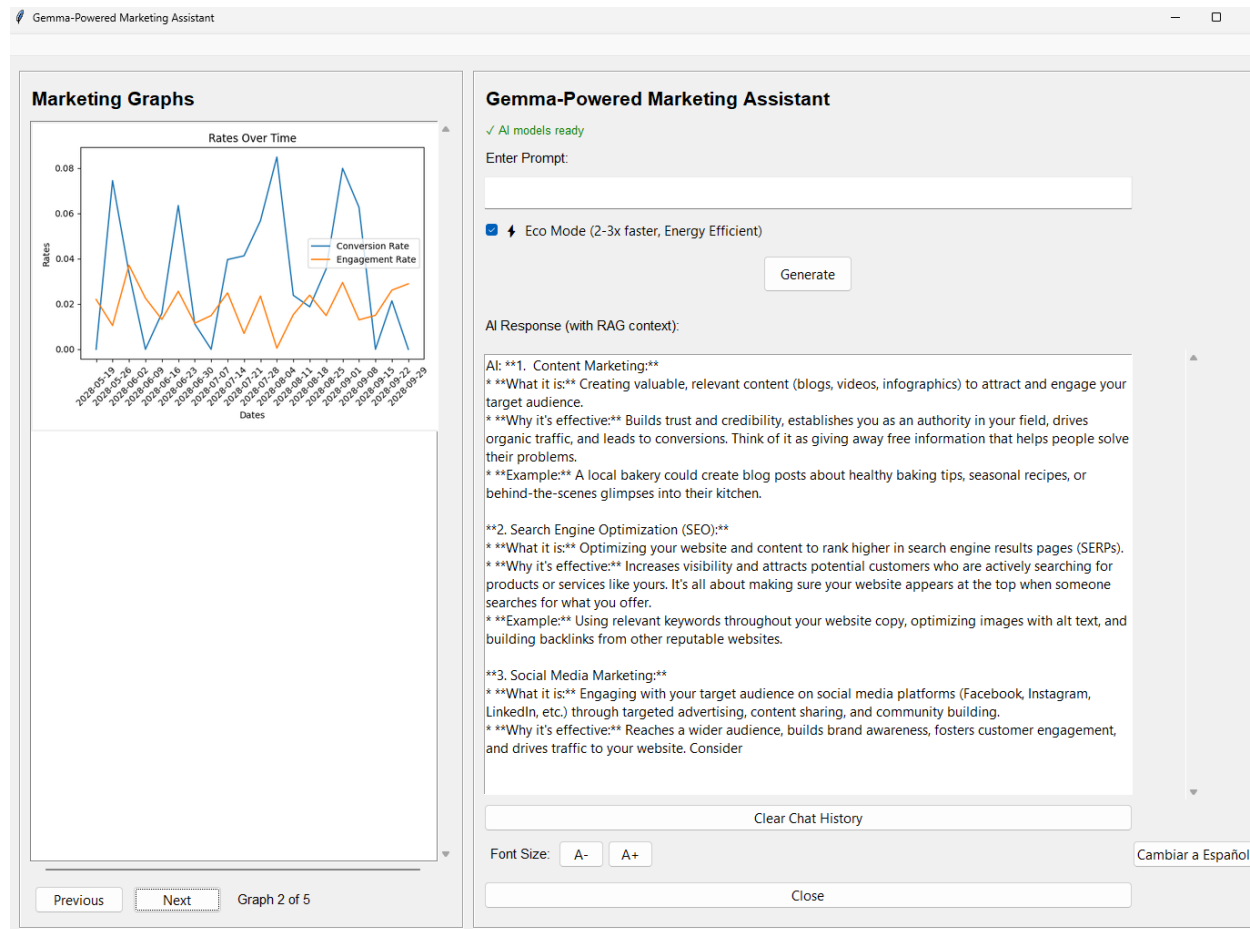
Experience | Personal Projects

axis	y	axis	x
y_i (m)	500	x_i (m)	180
v_i (m/s)	100	v_i (m/s)	45
g (m/s ²)(constant)	-9.8	a (m/s ²)(constant)	0
displacement		resulting velocity	
time (s)	4	time (s)	8
p (x)	180	v (x)	21.6
p (y)	321.6	v (y)	45
p (z)	0	v (z)	0
p (f)	368.5466	v (f)	49.915529
This will give you the distance from where you started to where you are currently. Otherwise known as displacement.		This will give you the resulting velocity based off of the velocity in the x, y, and z axis. Direction will be determined by you.	
NOTE: In general physics, you probably don't have to worry about motion on the z axis, so keep v (z)/ p (z) as 0 for now.		NOTE: When making these calculations, make sure that the units are correct and the direction is correct.	

t (x)	position (x)	velocity (x)	acceleration (x)	t (y)	position (y)	velocity (y)	acceleration (y)
0	180.000	45.000	0.000	0	500.000	100.000	-9.800
2	270.000	45.000	0.000	2	680.400	80.400	-9.800
4	360.000	45.000	0.000	4	821.600	60.800	-9.800
6	450.000	45.000	0.000	6	923.600	41.200	-9.800
8	540.000	45.000	0.000	8	986.400	21.600	-9.800
10	630.000	45.000	0.000	10	1010.000	2.000	-9.800
12	720.000	45.000	0.000	12	994.400	-17.600	-9.800
14	810.000	45.000	0.000	14	939.600	-37.200	-9.800
16	900.000	45.000	0.000	16	845.600	-56.800	-9.800
18	990.000	45.000	0.000	18	712.400	-76.400	-9.800
20	1080.000	45.000	0.000	20	540.000	-96.000	-9.800
22	1170.000	45.000	0.000	22	328.400	-115.600	-9.800
24	1260.000	45.000	0.000	24	77.600	-135.200	-9.800
26	1350.000	45.000	0.000	26	-212.400	-154.800	-9.800
28	1440.000	45.000	0.000	28	-541.600	-174.400	-9.800

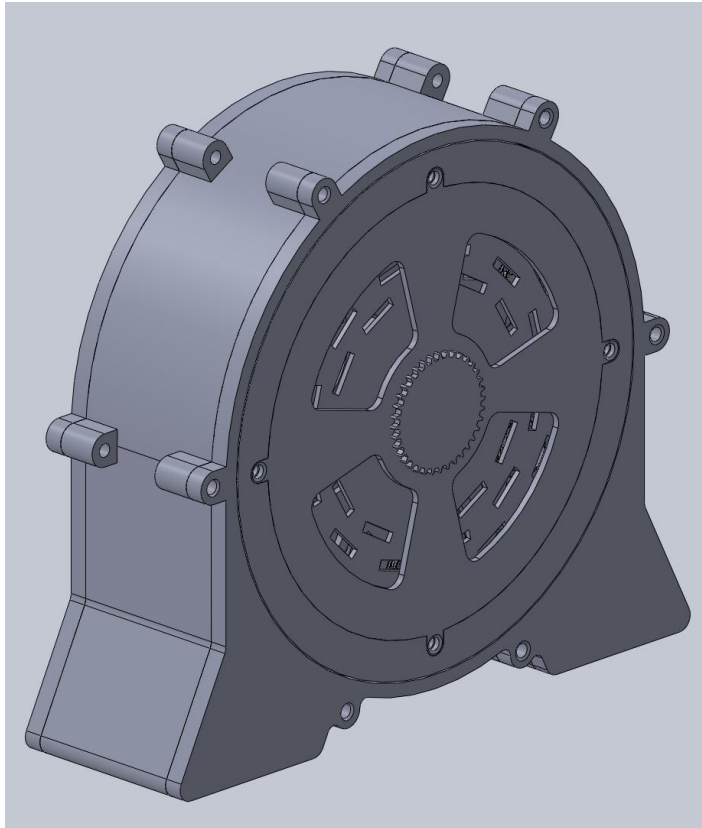
- Made Physics calculator for several different physics applications.
- Demonstrates basic physics concepts and integral/derivative processes.
- Utilized to help classmates understand Physics and Calculus concepts.

Experience | Personal Projects



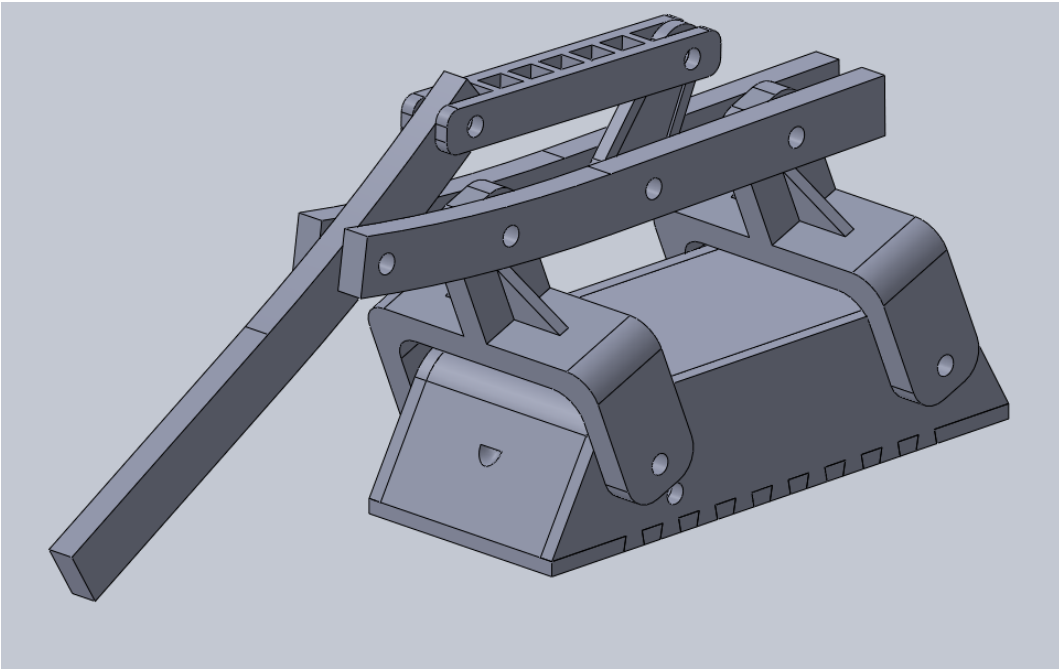
- Developed digital advertising AI software that theoretically could interpret market trends and ad performance, providing suggestions that would positively impact a businesses digital influence.
- Utilized Python Tkinter library with Google's Gemma AI model.
- Small Language Model designed to promote sustainability in a world dominated by resource-heavy Large Language Models.

Experience | Personal Projects

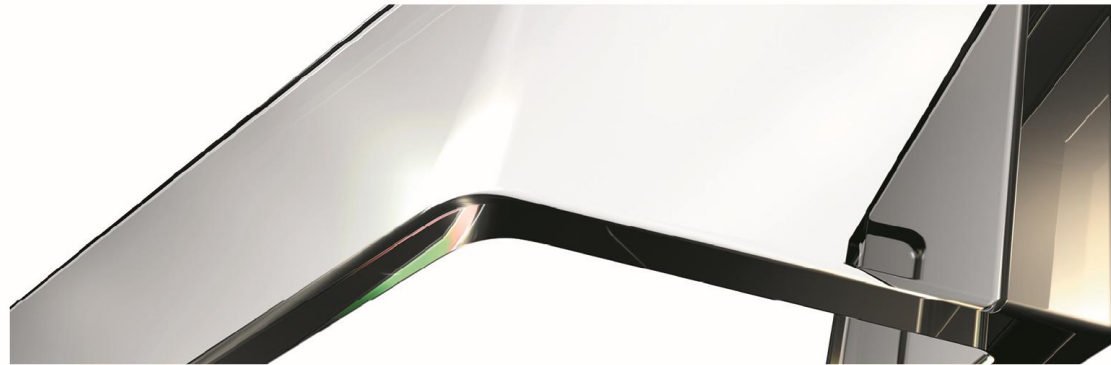


- Building an electric generator using concepts of electromagnetic induction.
- 3-D printed parts and components, used thin copper wire and small magnets to induce electricity from the wires into a battery.
- Design concept is to be implemented onto a mountain bike that will be turned into an electric bicycle.

Experience | Personal Projects



- Designing a robotic arm that can be remote controlled.
- Going through several iterations of possible robotic arm designs for maximum motor efficiency and control.
- Developed a housing to enclose the bottom motors and the Arduino uno R3 microcontroller.



In recognition of a commitment to professional excellence, this certifies that

Cuevas Chabrier Javier Arturo

has successfully completed the program requirements of

Autodesk Certified User: AutoCAD®

Autodesk and Autodesk Programs are registered trademarks or trademarks of Autodesk, Inc., and/or its subsidiaries and/or affiliates in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders. Autodesk reserves the right to alter product offerings, specifications and pricing at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document. © 2022 Autodesk, Inc. All rights reserved.

February 10, 2023

Date

Andrew Anagnost
President, Chief Executive Officer

anFn-s27N
verify.certipoint.com

Certifications | Autodesk AutoCAD



CERTIFICATE

Dassault Systèmes confers upon
JAVIER CUEVAS CHABRIER
the certificate for
SOLIDWORKS CAD Design Associate



February 2 2024

Academic exam at West Port High School



C-QXJ2BN73PF

Manish KUMAR
SOLIDWORKS CEO
R&D Vice President

Certifications | CSWA



CERTIFICATE

Dassault Systèmes confers upon
JAVIER CUEVAS CHABRIER
the certificate for
SOLIDWORKS CAD Design Professional



April 11 2024

Academic exam at West Port High School



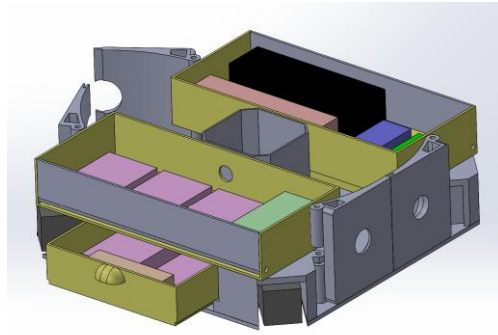
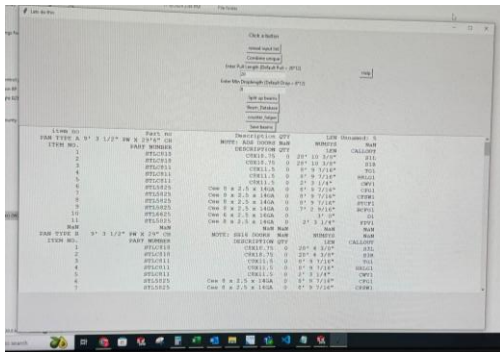
C-XMV5Q9JG7K

Manish KUMAR
SOLIDWORKS CEO
R&D Vice President

Certifications | CSWP

Certifications | Interim Security Clearance

Skills | Computer – Programming/CAD



- SolidWorks: Expert, obtained CSWA/CSWP
 - Well Bilt Industries, KXR, SHPE, Baja, personal projects

- Fusion 360: Beginner

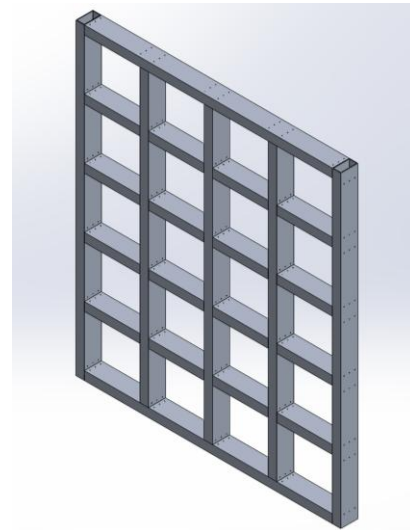
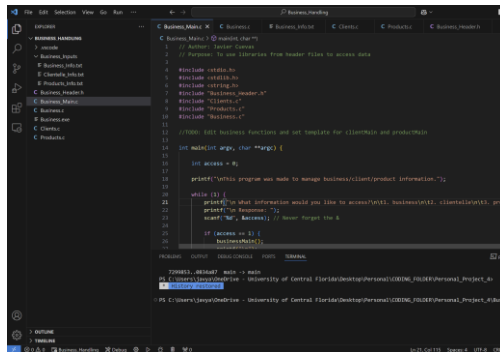
- Autodesk: Proficient, obtained AutoCAD certification
 - West Port High

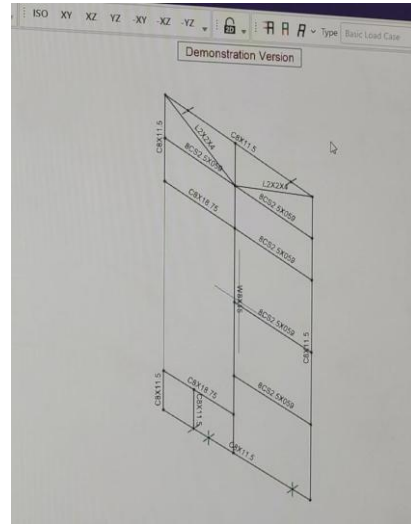
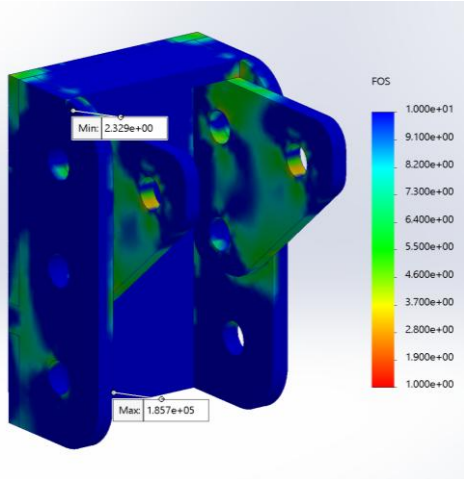
- Programming: Proficient in Python, C, MATLAB, Java, HTML.

- Leveraged Python to create an executable file that would organize beam cut lists into separate beams for shipping purposes.

- Using Python for Engineering calculations. Using Tkinter library to design applications for versatile use in Aerospace field.

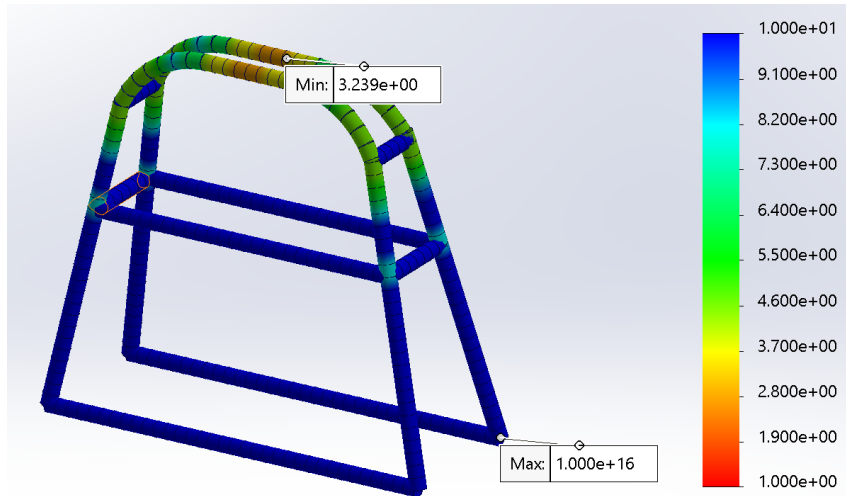
- Utilized C to create executable programs that would help users manage business/client/product information. Created several other programs for faster calculations.





Skills | Computer – FEA Analysis

- Ansys: Learning
- SolidWorks Studies: Proficient
 - Utilized to make calculations on suspension tabs, stands, spacers.
 - Used to determine the best geometry for robotic arm.
- RISA – Structural Analysis: Proficient
 - Utilized in Well Bilt Industries to calculate wind loads on door panels.
 - Determined what beam types/configurations/profiles (I-beams, hot-rolled stiles and cold-formed girts, tubes for hydraulics, etc.) are most optimal given certain wind speeds



Skills | Computer - Microsoft

- Microsoft Excel: Expert, utilized in previous company and school settings
 - Well Bilt Industries, KXR, SHPE, PREM Scholars, personal calculations/schedules
 - Utilized to demonstrate basic physics concepts
 - Able to translate from Excel to Google Sheets
- Microsoft Word: Proficient
 - West Port High, College of Central Florida, KXR
- Microsoft PowerPoint: Proficient, utilized to demonstrate preliminary designs
 - West Port High, College of Central Florida, KXR
- Microsoft Teams: Proficient, good form of communication and utilized it's services to conduct meetings.
 - West Port High, College of Central Florida, KXR, SHPE, PREM Scholars

A		B		C		D		E		F		G		H		I		J		K		L		M		N		O		P		Q		R		S		T		U		V		W		X		Y		Z																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Effective Area		Pressure		Height		Width		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind Speed		Wind	

Skills | Manufacturing

- Computer:
 - Beamline: Proficient
 - Utilized to manufacture beams and ship them out
 - Messer Nesting: Proficient
 - Utilized in Well Bilt to cut out plates of certain thickness
 - Utilized SolidWorks to get the 2-D configuration of these plates
- Soldering: Beginner

Skills | Languages

- Spanish: Proficient, learned Spanish since birth
 - Utilized in Well Bilt industries to communicate ideas between clients and coworkers
- English: Proficient, second language and is always practiced
 - Common language utilized to communicate with others
- French: Beginner, learning slowly and will soon use it to learn other languages.

Links

Handshake | Javier Cuevas Chabrier

- <https://app.joinhandshake.com/profiles/56146496?ref=students>

GitHub | Javy0119

- <https://github.com/Javy0119>

LinkedIn | Javier Cuevas

- www.linkedin.com/in/javier-cuevas-JACC84

Portfolio

- https://javy-scratchspace.github.io/javy0119_portfolio.io/