

PRESENTATION'S SCHEDULE



FAMILY STUDIES & HUMAN DEVELOPMENT

- 1:10PM** Dezara Angulo, **Attachment Styles in Childhood Impact in Adult Relationship**
- 1:25PM** Kassandra Landeros, **The Impact of Social Media on Social Skills**
- 1:40PM** Amalia Guerrero, **Internship Regional Center for Border Health**
- 1:55PM** JP Weathersby, **Internship Yuma Communiy Food Bank**

TECHNOLOGY



- 2:10PM** Jack Thompson, Jesus Gandara, Leonardo Loureiro, Sahler Parsons and Zach Barriga, **UAZ YUMA APP**
- 2:25PM** Katie Celaya, Sarah Gasim, Miguel Martinez, Aaron Nolan, Joseph Wicinske, **UAnalyze Enrollment Analytics: Predicting the Future of UAZ Yuma**

ENGINEERING



- 2:40PM** Maleny Marin, Rafael Ortiz, Victor Ramers, Alan Vega Christian Pascasio, Eduardo Alvarez **AQUA RIO**
- 2:55PM** Francisco Gutierrez, Adan Vega, Mark Ochoa **SOTER SYSTEMS**

- 3:10PM** Alfredo Aispuro, **Internship Installation Logistics, U.S. Marine Corps Air Station**

AGRICULTURE



- 3:25PM** Michael Doiron, **Comparison of Fertilizers in Broccoli**
- 3:40PM** Angel Caro, **Best Light Source for Plants Grown Indoor**
- 3:55PM** Luke Hodges, **Construction Risk Management**
- 4:10PM** Carlos Bustamante, **Front End Iceberg**
- 4:25PM** Saul Hernandez, **Student's Perceptions of COVID-19**
- 4:40PM** Katya Amesquita, **Impact of mentoring HS to Pursue Careers in Ag**
- 4:55PM** Daniel Gerardo, **Wet Days impact on yield and quality**
- 5:10PM** Alejandro Paez, **Fertilizer Comparison on Broccoli**
- 5:25PM** Juan Morales, **Bio Stimulant Evaluation**
- 5:40PM** Ramon Campa, **Best Cost-Efficient Rate of ENC**
- 5:55PM** Levi Duran, **Literature Review on Hemp production**

INTERNSHIP



AMALIA GUERRERO

*INTERNSHIP REGIONAL
CENTER FOR BORDER
HEALTH*

Amalia Guerrero completed her internship at the Regional Center for Boarder Health in the area of mental and behavioral health. Throughout her internship her responsibilities progressed from observing counseling sessions and translating for Spanish-speaking clients and towards the end of her internship she was conducting initial assessments with new clients. Some of the most common behavioral issues clients came with were depression, anxiety, sexual/emotional/physical abuse, domestic violence, autism and other mental health problems.



JP WEATHERSBY

*INTERNSHIP YUMA FOOD
BANK*

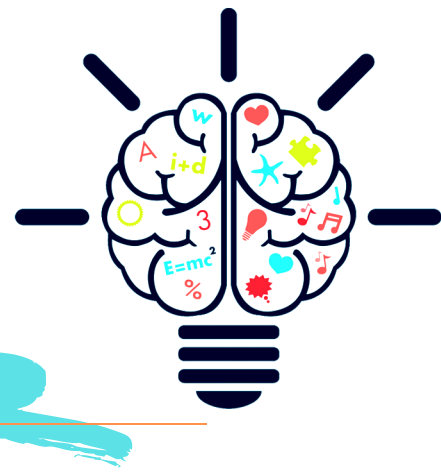
JP Weathersby completed his internship at Yuma Community Food Banks as an Intake Specialist. As the only food bank in Yuma County they serve over 20,000 people per month that are faced with food insecurity. In this role he is responsible for verifying eligibility, and enrolling clients in The Emergency Food Assistance Program (TEFAP) as well as the Commodity Supplemental Food Program (CSFP) for those over 60. JP also worked with the Nutritionist Intern to look at ways of expanding their current Backpack Program.



Yuma



CAPSTONE



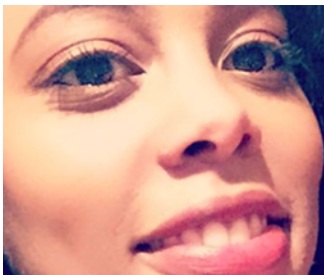
KATIE CELAYA

AARON NOLAN

SARAH GASIM

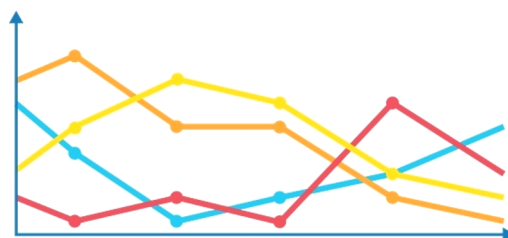
JOSEPH WICINSKE

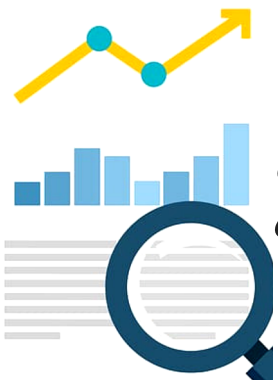
MIGUEL MARTINEZ



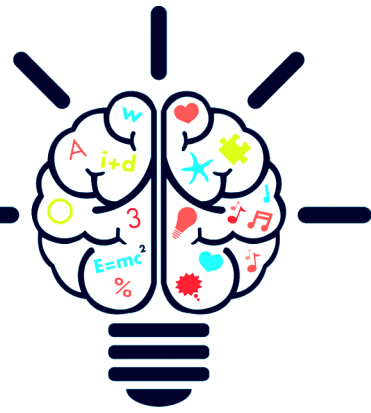
UANALYZE "ENROLLMENT ANALYTICS: PREDICTING THE FUTURE OF UAZ YUMA"

Develop an application, for UAZ Yuma, that provides predictions about the student enrollment based on statistical methods. The app, will have the ability to generate multiple predictions based on different variables.





SENIOR DESIGN



MALENY MARIN

RAFAEL ORTIZ

VICTOR RAMERS

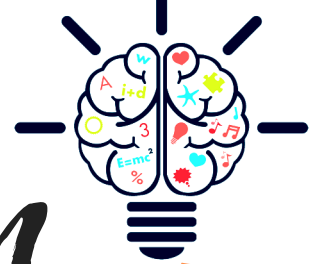
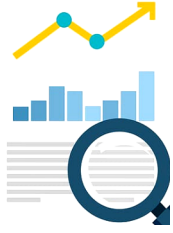
ALAN VEGA

CHRISTIAN PASCASIO EDUARDO ALVAREZ

AQUA RIO



In an effort to create a first-class historic park, The Yuma Crossing National Heritage Area, requested a new alternative to the current exhibits being presented to the public. With the aim of increasing the level of awareness about changes happening to the river, a different type of exhibit was required. An interactive display of the lower basin of the Colorado River was selected as the solution. An interactive topographic display of the lower basin of the Colorado River was designed and built to meet the customer's needs. Based on a trade study, a 32-inch AIO Android signal tablet/display was selected as the interface that allowed the visitor to directly interact with the exhibit. The tablet presented the visitor with an array of choices of historical information about the Colorado River. On a separate trade study, a Raspberry Pi 4 was selected to manage all system components and sub-components. The output signal generated from the tablet created a flow of current to light-emitting diodes placed on the topographic model. These light-emitting diodes depict ten major dams along the lower basin of the Colorado River. Based on the size and complexity of the project, the selected programming language was Python, due to its object-oriented approach and ease of use. The topographic model was designed and built in accordance with energy and building codes. In addition, consideration for proper system ergonomics were required based on ADA regulations.



SENIOR DESIGN

KELVYN PEÑA
JONATHAN KLEIN
HENRY ACEDO
FRANCISCO GUTIERREZ
ADAN VEGA
MARK OCHOA



SOTER
SYSTEMS



To design a fiber optic secured network capable of interconnecting addressable Fire Alarm Control Panels (FACP) throughout different facilities structures into an alarm monitoring center aboard a military installation. Fiber optics are commonly used in various life and safety monitoring devices to provide highly reliable signal transmission in network communications, thus accurately improving the response time in the event of an emergency. A network fiber optic system, using an optical transceiver circuit and fiber optic media cards, offers a wide array of benefits that are not available with traditional copper conductors. To name a few, fiber optic networks benefits include: no emitting of electromagnetic waves, higher tolerance to environment conditions, reduces cyber-security vulnerability against eavesdropping and greater signal transmission over long distances. The main focus of our design was to resolve multiple, "false-positive," alarms occurring monthly across 125 facilities FACP structures reporting to the alarm monitoring center Plain Old Telephone Service (POTS) network at Marine Corps Air Station (MCAS) Yuma, Arizona. The unreliable signal transmission / degradation was caused by copper wire (CAT 6e) runs in excess of 200 meters and copper wire corrosion at the connecting points due to long-term exposure to the environment. The design team conducted a Life and Safety Sustainability study on the facilities FACP structures affected by the signal degradation aboard MCAS Yuma. Together with this study, the design team recommended Courses of Actions (CoA) for the replacement of 22 discontinued FCAP and 123 Fiber Optic media card upgrades with their respective fiber optic connectors. The design requirements also addressed the need of approximately 9616 feet of Single Mode (9/125 microns) fiber optic cable and approximately 7000 feet of $\sim\Omega$ inch Electrical Metallic Tubing (EMT) with their respective fittings and connectors to protect the fiber optic cable leading to the Fiber optic entry controlled points, transition costs, and total cost of ownership requirements. The design team developed an, "Arena," software simulation for the Installations and Logistics (I&L) Director which displayed the upgraded fiber optic network signal interactions between the FACP and centralized monitoring services and maintained compliance with Federal regulatory expectations such as reliability, security, maintainability and signals communication aboard MCAS Yuma.



INTERNSHIP



INSTALLATION LOGISTICS, U.S. MARINE CORPS AIR STATION, YUMA, ARIZONA



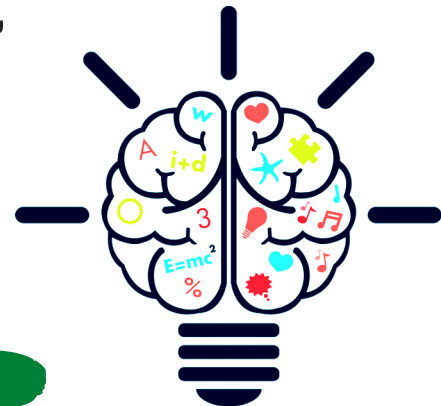
ALFREDO AISPURO

Alfredo Aispuro participated in an on-going internship with the Installations Logistics on U.S. Marine Corps Air Station, Yuma, AZ. Alfredo learned how many of the principles he has studied in his academic classes are applied in the everyday practice of Engineering. He worked in a professional environment with a continuing real-world mission every day. Specifically, Alfredo was responsible for collecting data using Tremble software, analyzing it with the ArcGIS system, and performing post-processing with Pathfinder. His work not only gave him the opportunity to learn, but his deliverables were essential to the decision and execution processes of the organization.



INDEPENDENT STUDY

RESEARCH



MICHAEL DOIRON

FERTILIZER OPTIMIZATION

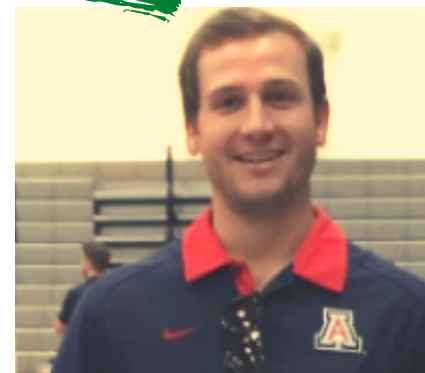
In today's agriculture, there are several different types of fertilizer a farmer can use on their crops. The problem with this is that farmers do not always know what fertilizer will generate excellent yields at the same time as utilizing cost efficiency. There are hundreds of different fertilizers a farmer can use, but which one is the best option for a farmer? This is crucial question for a farmer to answer because there is so much money involved when it comes to all the steps in a farming operation. By comparing the 2 of the most common fertilizers, I will be able to get a good idea on which one provides the better yield, and which one costs less



ANGEL CARO

BEST LIGHT SOURCE FOR PLANTS GROWN INDOORS

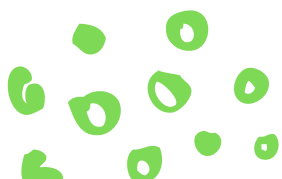
As the population in the community grows so does the need for more food. I believe that growers will try their best to grow crops in the fastest and best way possible. I have read of optimal nutrition for crops, the best weather for crops, the right amount of irrigation water for crops, but I have not heard of the optimal light source for crops. The purpose of this research study is to find which the best light source is the visible light spectrum for plants grown indoors. The visible lights that will be tested are the blue light, the orange light, and the white light. This will be of great use for indoor crop growers



LUKE HODGES

CONSTRUCTION RISK MANAGEMENT

This issue to address is the lack of risk management within construction projects and businesses. This problem is important because of the safety of workers and liability related issues that may come back on individuals or businesses. The main objective of this study is to be able to identify how much of the construction industry follows risk management properly. I want to compare how people are trained, when they are trained and whether their training is up to date.



Yuma



INDEPENDENT STUDY

RESEARCH

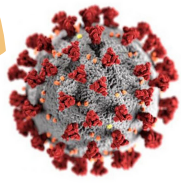


CARLOS BUSTAMANTE

FRONT END ICEBERG

Iceberg lettuce is one of the main leafy greens grown in the desert southwest region. Seed selection is crucial when it comes down to planting and growing a high quality crop. There are several planting slots throughout the season but my study shows and compares varieties grown in the front end of the desert southwest season. My study shows how certain Iceberg lettuce varieties planted by the company that I work, grow and yield. My research shows how fast these varieties grow, the tolerance to diseases and pest, head formation, and the overall uniformity/yield. All varieties were grown in the same region and type of soil using the same growing practices.

My research is supported by: Tanimura and Antle Fresh foods



SAUL HERNANDEZ

STUDENT'S PERCEPTIONS OF COVID-19

The student's learning can be affected by the quarantine established by the state because of the new virus. The purpose of this study is to provide information about how the quarantine affected or still affecting students emotionally and physically. The University of Arizona Yuma campus and the Yuma community will benefit from this research. Learning about how the quarantine imposed by the state because of COVID-19 affected UAZ Yuma students and what helped them endure the situation.



KATYA AMESQUITA

IMPACT OF MENTORING HS STUDENTS TO PURSUE CAREERS IN AG

Many high school students do not continue their agriculture education after graduating high school. Although most of high school students think that agriculture is just farming there are more careers in agriculture that high school students do not know about, that have an impact in the growing population and how we will feed the world. My study will provide more information that in the end will result in knowing whether or not mentoring high school students will have them interested in the agriculture industry after graduation.

