

FRANCISCO NAVA

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Computer Science major looking to apply theoretical knowledge and contribute to dynamic and innovative software engineering and IT roles.

EDUCATION

The University of Texas Rio Grande Valley
Bachelor of Science in Computer Science

Expected Graduation: Fall 2023
GPA: 3.56

South Texas College
Associates Degree in Interdisciplinary Studies

August 2016 – June 2020
GPA: 4.0

WORK EXPERIENCE

Multiple Autonomous Robot Systems (Swarm Robotics) - UTRGV

Edinburg, Texas

Research – Research Assistant

May 2023 – Present

- Actively engaged in collaborative research that focuses on the practical application of Python programming in autonomous robot behavior.
- Implementing simulations in virtual environments to anticipate robotic behaviors, with the aim of enhancing predictability in the real world.
- Transitioning from virtual simulations to real world design applications using ROS and controller code from the simulations.
- Utilizing techniques such as foraging algorithms, path planning and obstacle avoidance to optimize robotic response.

Edinburg Consolidated School District

Edinburg, Texas

Intern – Web Master Intern

September 2022 – Present

- Managing over 30 school websites using a content management system and serving as a go-to resource for technology troubleshooting
- Utilizing Structured Query Language (SQL) to effectively navigate the district website's database and extract relevant information.
- Collaborating with cross-functional teams to design and implement innovative solutions for improved efficiency and user experience.
- Managing and analyzing diverse datasets and employing advanced data processing techniques to drive informed decision making.

The University of Texas Rio Grande Valley

Edinburg, Texas

IT Support – Student Academic Assistant

February 2022 – September 2022

- Analyzed and resolved complex system issues by implementing a variety of scripts that utilized multiple programming languages.
- Conducted in-depth hardware troubleshooting of various components including SSDs, M.2s, CPU's, RAM and other critical components
- Utilized Linux-based operating systems and third-party software such as Ghost64, Legacy, and Acronis to re-image and reinstall OS's.
- Collaborated with a team to conduct comprehensive analysis of system vulnerabilities such as log4j and employing a range of solutions.

PROJECTS

E-puck Robot

Developed a virtual autonomous scavenging e-puck robot using Python and Webots that uses bug0-algorithm to reach a target destination. Currently improving the e-puck's capabilities to find "food" and create a memory-limited path that is transmitted back to base for other e-pucks.

Perfect Coffee App

Creating an app that allows coffee consumers to choose their coffee device and desired portion and outputs the amount of ingredients to use. Utilizing the Flutter framework and Dart to create a cross-platform mobile app to create a seamless and visually appealing user experience.

Access Request Form

Developing a web application that allows employees to request access permissions to the district's internal management applications. Web application is built using C# .NET Framework, REST API's, and custom SQL queries for data retrieval and digital record keeping.

COMPETITIONS

Nissan Design Challenge

Participated in a design challenge where we were tasked on finding how to improve sustainability in current electric vehicles and be cost effective. My team proposed switching the separators located within lithium-ion batteries from Polyolefin to phase-changing materials such as Paraffin Wax

IEEE Coding Hackathon

Participated in a 24-hour competition that involved solving practical problems that required extensive computer science knowledge. Using C++ and Python, my team and I placed 3rd in our university, 12th in Region 5 and in the top 40% internationally.

Frontera Devs Hackathon

Competed in a 24-hour competition that required a project that would benefit our community and considers our geography. My team created a website with a database, and API's that targeted Spanish speaking families seeking inexpensive medical services.

SKILLS

Languages: C++, HTML, CSS, Python, JavaScript, SQL, Ruby, Dart

Software: Linux, MATLAB, Jupyter Notebook, CMS, ReactJS, Node.js, GitHub, Git, SQLite, VS Code, Webots, Flutter, Xcode