

# FRANCISCO NAVA

Edinburg, Texas 78541 • (956) 566 – 2241 • frankynava2201@gmail.com

## EDUCATION

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

Expected Graduation: Fall 2024  
GPA: 3.56/4.0

**South Texas College**  
*Associates Degree in Interdisciplinary Studies*

August 2016 – June 2020  
GPA: 4.0/4.0

## WORK EXPERIENCE

### Multiple Autonomous Robot Systems (Swarm Robotics) - UTRGV

Edinburg, Texas

**Research – Research Assistant**

May 2023 – Present

- Actively engaged in collaborative research in, focusing on the practical application of Python programming for 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 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.
- Developed an MVC-based Access Request Form enabling ECISD employees to securely request access via HTTP methods.

### 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 utilizing multiple programming languages.
- Conducted in-depth hardware troubleshooting of various components including SSDs, M.2s, motherboards and more.
- 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

- Developing an autonomous scavenging e-puck robot using Python and Webots that uses path planning and obstacle avoidance.
- Enhancing robot capabilities to find 'food', create a memory-limited path that is transmitted back to base to exemplify swarm robotics.

### Websites

- Designed and developed multiple websites to showcase my portfolio and hone my expertise in HTML, CSS, JavaScript, and Bootstrap.
- Utilized complex web practices such as HTTP methods, server-side/client-side code, and databases to create complex websites.

### Access Request Form

- Utilizing HTTP methods, C#, .NET and SQL queries to access database values to allow employees to request certain permissions.
- This web app will be used by a multi-million-dollar school district and will allow the switch from paper forms to electronic forms.

## COMPETITIONS

### IEEE Coding Hackathon

- Competed in a 24-hour competition where my team placed 3<sup>rd</sup> in our university, 12<sup>th</sup> in region 5 and top 40% worldwide.
- The competition consisted of real-world coding problems that my team and I implemented in C++.

### Nissan Design Challenge

- From the 100 applicants, only 24 were chosen and placed in a team to improve the sustainability in current electric vehicles.
- As a team, we proposed switching the separators located within Lithium-Ion batteries from Polyolefin to Phase Changing Material.

### Frontera Devs Hackathon

- Competed in a 24-hour coding competition where my team and I developed a website using API's, HTTP methods and a database.
- Our goal was to create a minimalist website targeted for Spanish speaking families seeking inexpensive medical services.

## SKILLS

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

**Software:** Linux, MATLAB, Jupyter Notebook, Content Management Systems, ReactJS, Node.js, GitHub, Git, SQLite, VS Code, Webots