

# RICARD MARSAL I CASTAN

## STUDENT - ATHLETE

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## EDUCATION

### Fairmont State University, WV, USA

B.S. Computer Science, Cybersecurity GPA 3.87 2021

B.S. Mathematics GPA 3.6 2021

Honors Program, Men's Swimming

## SKILLS

**DEVELOPMENT:** Python, Java, C++, JavaScript, Arduino, Scala, Spark

**SPOKEN LANGUAGES:** English, Spanish, Catalan

**MACHINE LEARNING:** Random Forests, Genetic Algorithms, ANN

## RESEARCH

### Genetic Algorithm and Machine Learning for Intrusion Detection Systems

A novel algorithm for intrusion detection of network data based on a Random Forest and a Genetic Algorithm (Scala, Spark)

### Probability of Obtuse triangle choosing 3 random points

Using probability techniques I'm constructing a formula to find how many triangles can I find in a finite plane, then apply it to the infinite plane and verified with a Monte Carlo simulation

## PROJECTS

### E-Voting

2020

Implement a decentralized voting service using Ethereum blockchain

### Mercury Challenge

Apr. 2018

In Mercury Remote Robot Challenge, we were required to design and implement a robot capable of completing a variety of tasks while under the control of an operator located at least 50 miles from the competition site at Oklahoma State University in Stillwater, Oklahoma

### 3D Printed Medicine Drone

2015 - 2017

A 3D printed drone with a little fridge below that allowed to carry medicine to places with difficult access

## EMPLOYMENT

### D&E Volunteers Operating Production Systems, *Specialist DevOps*

2017 - 2019

Development, operation, and maintenance of the client's production systems to address the client's real needs.

Creation of front end, back end and tests of the Tutoring login page. (JavaScript, HTML, CSS, Sails.js, Node.js)

The Tutoring Center. <https://www.dewv.net/>

Code: <https://github.com/dewv/nlcAttendance>.

### Fairmont State University, *Resident Assistant*

Aug. 2019 - Current

Provide clear expectations to students on appropriate behaviors and community standards.

Encourage responsible decision-making and accountability.

### Tutoring Center FSU, *Tutor*, Fairmont State University

Oct. 2019 - Current

Tutor of Calculus, Differential Equations, Statistics, C++, and Java.

## VOLUNTEERING

### Helper Helper, *Administrative*

2017 - 2019

Help the community of Elkins we offered free swimming classes where our swim team would be the instructors. I managed to arrange the schedule of the volunteers and also participate in it.

We logged more than 300 hours of community service per year.