

# Daniel Melo Cruz

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## PROFILE

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- Designed and assembled multiple robotics projects in Penn State Robotics Club, becoming the Vice-President of the club
- Responsible for the software development of RFID boxes that were used by over 900 hackathon attendees at Penn State
- Learned about Deep Learning with a focus on Convolutional Neural Networks for classification in cancer diagnosis and monitoring through Ultrasound images

## EDUCATION

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### Bachelor of Science, Computer Engineering

**Cumulative GPA: 3.7/4.0**

The Pennsylvania State University, University Park, PA

Expected graduation date: **May 2021**

## ACTIVITIES AND PROJECTS

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### Software Development Intern

*TV Cabo Branco, Joao Pessoa, Brazil (Summer 2018)*

- Adapted an open source speaker recognition algorithm written in Python to work in real-time
- Became acquainted with machine learning and artificial intelligence algorithms used in speaker recognition
- Implemented an algorithm in Python to train the voices that will be recognized

### Customer Success Engineer - Intern

*Xtream Solutions, Joao Pessoa, Brazil (Summer 2020)*

- Worked directly with customers of a software startup in the field of remote learning during the COVID-19 pandemic
- Trained over 25 teachers in using a video management system for uploading and managing their videos
- Gathered user feedback and worked with software engineering team to improve the product
- Became familiar with the development of a full-stack web application

### Vice President - Penn State Robotics Club

*The Pennsylvania State University, University Park, PA (Fall 2019 – Fall 2020)*

- Assisted over 40 club's members by answering questions about the material used in the meetings, like Arduinos, breadboards and components used in the robots
- Organized a competition between the members in the end of each semester of the academic year

### Software/Hardware Developer - HackPSU Technology Team

*The Pennsylvania State University, University Park, PA (Fall 2019)*

- Joined the Technology Team of HackPSU, becoming an organizer of the student-run hackaton with over 900 participants
- Worked in a team to develop 3D printed open source RFID registration boxes using git and agile workflows
- Adapted previous Arduino code developed in C++ to work in Raspberry Pi with Python.

### Research Assistant - Almekkawy Lab

*The Pennsylvania State University, University Park, PA (Summer 2019-Present)*

- Studied Quantitative Ultrasound papers to apply knowledge in software-based solutions for non-invasive diagnosis and monitoring of cancer treatment
- Learned about Convolutional Neural Networks to apply in image processing of ultrasound images

### Robotics Developer - ShepRobo Fire-Fighting competition

*The Pennsylvania State University, University Park, PA (Spring 2019)*

- Designed a fully autonomous robot that simulates a fire protection situation in a house for a regional competition
- Developed code on Arduino and an algorithm for the robot to autonomously navigate through a maze

## LANGUAGE & COMPUTER PROFICIENCY

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**Software Proficiency:** Python, C, Java, JavaScript, MATLAB, Lua, HTML, CSS, Verilog, MIPS Assembly Language, Machine Learning: Deep Learning and Convolutional Neural Networks

**Languages:** English, Spanish, Portuguese (native language)

## AWARDS

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- The President's Freshman Award (The Pennsylvania State University, 2018)