peter mitrano

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summary

I'm looking to work with a small group of equally passionate and talented people!
I'm pursuing internships in Computer Science & Robotics Engineering.
I adapt fast to new tasks and am eager for to acquire new skills.

employment

OSRF (Open Source Robotics Foundation)

Mountain View, CA

Software Engineering Intern

May 2015 to Aug 2015

I will be continuing the development of the FRCSim project. The aim is to allow FIRST Robotics Teams to use the Gazebo robot simulator to simulate their robots and practice programming them without a completed physical robot. This project heavily involves C++, Gazebo, and Linux.

Robot Autonomy and Interactive Learning Lab

Worcester Polytechnic Institute

Oct 2014Current

Created Models for our robot & its environment. Currently developing online interface to allow crow-control of our robot. We hope to learn whether crowd-learning works in unstructured robot domains over the web.

Propulsion Science and Technology

Langhorne PA

Jun 2014 to Aug 2014

Parallelized Fortran code for multi-core CPUs

awards

College Board · National AP Scholar

Aug 2014

Scored **5** on all 10 of my AP exams, including Physics, Calculus, English, History, and Computer Science

activities

PennApps 2015

Developed a rapid-mockup tool for web development. Allows the user to draw out a basic website layout on paper or a whiteboard, take images of the pages, and then a script on our server processes the images and generates the website mock-up for you to view and continue developing.
http://challengepost.com/software/whiteboard-js

HackRPI

Created an Android App "Here I Am!" that uses GPS to enable classic hide-and-seek on a much larger scale
http://challengepost.com/software/here-i-am

HackBCA

My first hackathon! My friends and I built DefNotes, and Android App which listens to lectures and produces vocabulary study sheets for key terms
http://challengepost.com/software/defnotes

volunteering

The WPILib Project for FIRST Robotics · Java Library Developer

Nov 2014

Working to develop C++ & Java Libraries for the thousands of teams across the world who use WPILib to program their robots as a part of FIRST Robotics

Team INFINITY · Mentor

Oct 2013 to Mar 2014

Founding mentor for a local FIRST Lego League robotics team, for kids ages 9-14

education

Worcester Polytechnic Institute

Computer Science & Robotics Engineering 2018

Clubs: Collab-Lab (Treasurer), Badminton Club, HeForShe
Current Courses: Machine Organization and Assembly Language, Fundamentals of Music, Forces and Bonding
Previous Courses: Intro to Robotics, Fundamentals of Music, Intro to Statics, Systems Programming, Multi-variable Calculus, Accelerated Program Design, Differential Equations, Great Problem Seminar in Education, Object Oriented Programming with Robots

Hopewell Valley Central HS

2014

National AP Scholar & Captain of FIRST Robotics Team

projects

WPI Smartmouse V3

A project organized by the WPI Collab-Lab to design, fabricate, and program a micro-mouse maze solving robot to compete at Brown University's IEEE Robotic Olympiad

MovingMath

As a part of a class on STEM Education, I developed an 'Algebra Scale' compatible with the IPad. A local 8th grade classroom piloted my app for three weeks as a part of their efforts to help students visualize algebra. We found that the online tool was both useful and engaging for the students, and that it may have had a positive impact on their performance as well.

Segway

DIY Segway project. The project is inspired by my participation in FIRST Robotics. The processing of the angle readings is done by an Arduino Pro Mini, and uses an IMU to get angle readings.

WPI Banner Web Mobile App

Created a mobile platform for WPIs online information database. The app uses standard asynchronous HTTP requests to scrap content off the online website. This app was made for students like me, for whom the mobile site is unbearably terrible.

Room Automation

Voice & SMS controls for lighting, and a fan. Integrates natural language processing & multi-threading, all written in Python.

Genetic Algorithm Tank Simulator

As a final project for my independent study in CS in high school, I wrote a tank simulator in java using swing for the graphics. The simulator had two tanks, one with a strategy decided by the human player, and another which used an genetic algorithm to eventually learn to overcome the oppositions strategy.

skills

PROGRAMMING EXPERIENCE

- OpenMP
- Scheme
- JavaScript
- Fortran
- Android Developement
- Python
- C/C++
- Linux
- Git
- Java
- ROS/Gazebo

HOBBIES

- Piano
- Fire Spinning

ROBOTICS INTERESTS

- Control Theory
- CAD & 3D Printing
- Automation
- Mapping & Planning