Arthur Pachachura

STEM Leader and Civic Developer in Austin, TX

I am a self-taught computer programmer, web designer, filmmaker, public speaker, and team leader looking for new experiences in the field of technology that will improve the lives of others. Most of my current experience stems from self-directed projects pursued with various teams I established, including civic projects with the desire to solve a problem, although often one potentially small. I am constantly filled with ideas to solve our generation's problems and have specific interest in the fields of computer engineering, software development, marketing, and business management.

EXPERIENCE

Satellite Data Analysis Intern

University of Texas Center for Space Research
grace.arthurpachachura.com

- Wrote a toolset to allow researchers working on the NASA GRACE mission to analyze large sets of data without coding
- Wrote a 3D demonstration and presented to engineers
- Taught group member how to code in C# and C++

Commercial Video Editor, Youth Camp Instructor

Communities in Schools of Central Texas
film.arthurpachachura.com/cis

- Taught "science!" to kids in a multilinguage and cross-generation summer camp
- Edited a promotional video for Communities in Schools and created a back to school video for the CIS staff

LEADERSHIP

Eagle Scout

Troop 448, Austin, TX
troop448austin.com

- Completed Eagle project that benefited FIRST Lego League mentors in Central Texas
- Completed National Youth Leadership Training
- Taught younger Scouts through Instructor position (held for 1.5 years)

Bank of America Student Leader

Washington, D.C. Volunteer/Leadership experience

- Selected (1/5 in Austin area) to spend a week in D.C. to meet top executives and speak with current legislature
- Selected to present closing ceremony speech in front of over 250 students and executives

Middle School Engineering Club Teacher

Gus Garcia Middle School

- Created, developed the curriculum for, then taught an engineering club for disadvantaged middle school students

LASA Robotics

FIRST Tech Challenge 4290, FIRST Robotics Competition 418
lasarobotics.org

- Lead the team for one year
- Lead programming for four years
- Worked on special programming projects for the team requiring experience
- Launched the website redesign in Wordpress
- Produced over 6 promotional videos for the team, including one with over 1,800 views

FIRST Robotics Championship Volunteer

St. Louis, Missouri - FIRST Tech Challenge division
firstinspires.org

- Volunteered as Field Control System Operator and Robot Software Inspector for three years, where I was responsible for one of four World Championship game fields and inspected and assisted other teams' robots off the field

AWARDS

Google Engineers' Award

School's Out Hackathon

- Won for "GoGreen", a mobile app that teaches users to conserve resources

Division Champions

FIRST Robotics World Championship 2015

Young Minds Awards Winner

Mechanical Engineering Category, $10,000 award

Division Champions

FIRST Robotics World Championship 2015

FIRST World Championship Star Volunteer

Awarded three years in a row

National Honors Society

Member, Photographer

PROJECTS

FTC Computer Vision Library

https://github.com/lasarobotics/ftcvision

- Wrote a computer vision library designed to make computer vision accessable to both novice and experienced FIRST Tech Challenge robotics teams
- Used by teams at the world competition
- 100% documented

Arduino Weather Balloon Camera Gimbal

https://github.com/smo-key/aura

- Designed a box attached to a weather balloon that records gyroscopic data and will later be used to smooth video streams
- Developing a gimbal that would use this data in realtime
- Worked with a team at Intel to launch the balloon
- Launched to 18,000 meters - previous launch reached 99 km
- Uses an Arduino and multiple redundant IMUs

Vetty Door Lock

https://github.com/smo-key/vetty-tests

- Building automated door lock for several teachers in school to allow their authorized students access to club rooms at any time
- Built on a Raspberry Pi with Python and NodeJS

ALU Assembler

lalu.herokuapp.com

- Wrote an assembler for students in high school Digital Electronics class
- Allows for custom assembly languages
- Written in NodeJS

LASA Capture The Flag (CTF)

lasactf.com

- Worked with 7 peers on developing LASACTF, a national computer security competition that had over 1,200 participants from high schools and universities
- The competition was the first high school CTF to be taken down by a hacking group (ours also took down the CIA)
- Sponsored by Google, Silicon Labs, Github, and Intel
- I designed the website and helped mitigate attacks

Notebook Genie

genie.arthurpachachura.com

- Converts a Trello board (trello.com) into a customizable, printable notebook
- Created for robotics team to facilitate communication while following engineering notebook guidelines
- Written in NodeJS and C

Chairman's Award Video

https://youtu.be/IS6ZUJXGbmU

- Directed and edited promotional film for LASA Robotics
- Over 1,800 views - 500 in first week of launch

Stale Paint

https://vimeo.com/164856725

- Directed and edited short film
- Won "Best Effects", "Best Adult Actor" and "Best Cinematography" in high school film festival

SKILLS

Programming

- **Low-level: C++, C, Assembly**
  Prefer (GNU) G++ or (Visual Studio) VC++
- **High-level: Java, Python, C#**
- **Machine Learning**
- **Computer Vision**
  Extensive knowledge of OpenCV algorithms
- **Data Analysis**

Creative

- **Graphic Design**
  Adobe Photoshop, Illustrator, InDesign
- **Film Editing / Effects**
  Adobe Premiere Pro, Adobe After Effects, Avid Media Composer, DaVinci Resolve
- **Cinematography**

Web

- **Responsive Design**
- **Implementation** (HTML, CSS, JS, etc.)
- **Linux Server Admin**
  Specialize in Ubuntu/Debian, Arch Linux
- **NodeJS**

Other Skills

- **Public Speaking**
- **Presentation**
- **Documentation**
- **Marketing**

CONTACT

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