Lucas Switzer –>

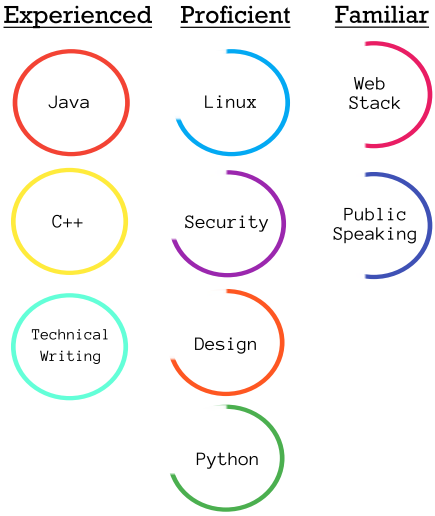
College of Engineering | Computer Science

Electrical Engineering | Game Design

About

I am a Cornell University student who has a passion for computer science and software development. Some of my fields of interest are **robotics**, **cybersecurity**, and **Internet of Things**.I am currently looking for Summer 2018 internship opportunities.

Skills



Tools

- Arduino
- Android
- Awesomium Engine
- boost
- cmake
- Git
- IntelliJ
- Lua
- OpenCV
- Visual Studio

Education

Cornell University - *2016 - Present*

Classes: I*ntro to Python (Placed out), Data Structures, Discrete Structures*
- Software Engineer on Cornell Cup Robotics (Vision System Team)
- GPA: 3.4

Penn State University - *2014 - 2016*

Classes: I*ntro to C++, Discrete Mathematics*
- GPA: 4.0

Clarion University - *2013 - 2016*

Classes: Intro to Micro-computing
- GPA: 3.8

Experience

Assured Information Security - - - 2017

Skills used : *Security, Linux, C++*
- Researched vulenerabilities in the 802.11 communication protocol alongside senior engineers
- Co-authored technical reports regarding research procedures and findings
- Demonstrated vulenerbilites in Linux Kernel modules and services

RealBotics, Inc. - - - - - - - - -2016 - 2017

Skills used : *C++, Design, Web Stack*
- Developed native client front-end and back-end
- Rendered HTML/CSS pages using the Awesomium Engine to provide cross-platform support
- Integrated low-level IO interfaces for peripheral devices
- Interfaced with external servers to provide web functionality

CyberPatriot - - - - - - - - - - - 2013 - 2016

Skills used : *C++, Linux, Security*
- Founded local program and elected as a team captain
- Learned to secure and configure infected or unsecure Windows and Linux machines
- Developed tools to automate repetitive security tasks
- Constructed virtual networks as part of Cisco's Networking Challenge

Cornell Cup Robotics - - - - - - - 2017- Present

Skills used : *C++, Python*
- Created computer vision system for indoor localization and mapping with OpenCV
- Interfaced with a large sensor network to produce more accurate localization
- Presented work to both corperate sponsors and Cornell University Faculty

FIRST Robotics - - - - - - - - - - - - - 2013 - 2016

Skills used : *C++, Java, Linux*
- Programming lead and Drive Captain in 2016
- Developed closed loop control algorithms
- Implemented Vision using NVIDIA TK1 hardware
- Competed at the World Championships
- Partnered with Carnegie Mellon Robomatter, Inc. to develop online robotics curricula.

Diversity & Inclusion Advocate 2012 - Present

Skills used : *Public Speaking*
- Workshop presenter with NGLCC and Out & Equal Workplace Advocates
- Founder of high school's Gay Straight Alliance
- Featured in *Families Like Yours* Documentary

Recent Projects

R2D2

Contributed to the R2D2 project as part of the Cornell Cup Robotics Team. R2D2 was a robot designed to act similar to R2D2 from Star Wars. The robot had a sound system so it could make the famous R2 beeps and boops, a 6-sensor indoor localization system, and a micro-arm to interact with its enviroment.

Dorm of Things

Created Dorm of Things, an Android-based home automation platform that uses the power of Arduino, to provide makers with the tools to construct their own Internet-of-Things type network using devices they already own and tools with which they are familiar.

RealBotics

Contracted by RealBotics, Inc. to develop a client program for the RealBotics platform. The platform itself is a multi-branch operation that integrates web, native, and micro-controller/micro-computing devices to create a forum for people to share and interact with various technological creations from anywhere in the world.

ThunderBiscuit

Currently developing a personalized 2D novelty game experience. ThunderBiscuit is a minimalistic game engine optimzied to run on embedded Linux devices. ThunderBiscuit is a piece of a larger project to streamline the development of personalized micro arcade machines.

Hect0r

Built and programmed an autonomous micro-droid with a high-powered 1 watt laser turret. The software included an auto-aim vision program, autonomous routines, and an emotions engine that allowed the droid to respond to human interaction.

SHARP Scripter

Developed SHARP Scripter, a program for rapid development and testing of various autonomous tasks performed by robots in the FIRST Robotics Competition. The GUI provides a simple "drag and drop" interface where users draw out autonomous routines with pictoral representations of provided code modules.

Lucas Switzer | LucasSwitz | lucswitz@gmail.com | 724-651-0641