FOSTER MCLANE

PROGRAMMER AND AMATEUR CYBER SECURITY CONSULTANT

ABOUT

I am a computer enthusiast and enjoy almost everything to do with computers, from low-level logic circuits to high-level programming. I am especially interested in embedded programming, operation systems, program security, network security, and network protocols. In addition to my computer enthusiasm, I have a large interest in high school level education in computational thinking.

WORK EXPERIENCE

Clemson University

https://ccit.clemson.edu/about/departments/security-operations-center/
January 2017 – Present

Cyber Security Intern

Under Clemson Computing and Information Technology, I analyze Clemson's computer network for potential cyber security threats, mitigate current threats, and prevent current threats from happening in the future.

Clemson University

January 2017 – Present

Virtual Reality Intern

Under Dr. Stephen Moysey, I work to bring virtual reality to the university in a variety of ways including setting up VR systems, coordinating generally available VR equipment for students and faculty, and creating demos for VR.

FoosterNET, LLC

https://fooster.io/
November 2013 – Present

Owner

FoosterNET, LLC is a company I use for freelance work in cyber security consulting, system administration, and computer programming. It additionally sanctions all other services I provide for money including server hosting.

Clemson University

January 2016 – December 2016

Virtual Reality Game Development Intern

Under Dr. Stephen Moysey, I researched teaching applications of geological sciences field techniques in a virtual reality video game. The game, titled Virtual Reality Field Experiences, features a trip to the Grand Canyon where the gamer learns rock identification techniques and builds the stratigraphic column of the canyon.

Clemson University

http://people.clemson.edu/~yue6/
January 2015 – May 2016

Undergraduate Student Researcher in UAV and Manufacuring Robotics

Under Dr. Yue Wang, I researched quadrotor control algorithms and trust aware manufacturing in the Interdisciplinary Intelligence Research Lab, or I²R Lab.

AWARDS

CONTACT

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https://fooster.io/

GitHub
fkmclane

EDUCATION

2014
2018

Clemson University

Bachelor of Science

Computer Science, with an interest in Education, Math, and Langauge

Courses

- Algorithms
- Software Engineering
- Operating Systems
- Network Programming
- Principles of Programming Languages
- Computer Security Principles
- Special Topics in Embedded Computing
- Foundations of Computer Science
- Distributed and Cluster Computing

2012
2014

SC Governor's School for Science and Mathematics

High School

Computer Science

Courses

- Advanced Computer Science
- Digital Logic
- Modern Physics

SKILLS

Programming — Master

C **C++** **C#** **Python** **JavaScript** **Java** **PHP**

April 2014

SC Junior Academy of Science

Outstanding Research and Presentation

Awards: 1st Oral Presentation - Computer Science, 1st Written Presentation - Computer Science. The awards included an invitation to the American Junior Academy of Science.

VOLUNTEER

FTC - Star Bots 6170

http://ehs.pickens.k12.sc.us/fine_arts_organizations/student_life/robotics_club
September 2016 – Present

Mentor

After having three years of experience of participating in the FIRST Tech Challenge robotics competition, or FTC, including one year of which I was team captain and made it to the super regional competition, I mentor the nearby Easley team, Star Bots.

CU Cyber

https://cucyber.net/
August 2015 – Present

Level 5 Tech Support

CU Cyber is the cyber security club at Clemson University. We participate in cyber defense competitions and hold weekly seminars involving cyber security. I was the secretary and am now Level 5 Tech Support of CU Cyber where I maintain club organization, club preparation, and various technological aspects. I additionally help create many of the weekly seminars given.

SC Robotics Education Foundation

http://scref.org/
January 2015 – Present

Field Technical Advisor and Field Inspector

After three years of experience of participating in the FIRST Tech Challenge robotics competition, I volunteer to run the scrimmage hosted by the SC GSSM and am the main technical coordinator for the state competition.

Gentoo Overlay - fkmclane

https://github.com/fkmclane/overlay
May 2013 – Present

Owner

I have a recognized overlay for my distribution of choice for my workstation, Gentoo. I maintain over 150 packages in this overlay that range from little X11 tools to the Unity Editor, from the game engine, for Linux to all of the Linux software associated with Plex. Additionally I have a few of my own tools that I wrote such as one to manage tty sessions intelligently without having a display manager.

Clemson ACM

https://www.cs.clemson.edu/acm/
September 2014 – January 2017

Webmaster

ACM, the Association for Computing Machinery, is the world's largest society for scientific and educational computing. I was the webmaster of Clemson University's local chapter where I created and maintained their website.

Unix Administration — Master

Website Deployment **Virtual Machines** **Networking** **General Services** **RedHat Enterprise Linux** **Ubuntu** **Arch Linux** **Gentoo Linux** **Debian** **FreeBSD**

Network Security — Proficient

Cisco **Palo Alto** **pfSense** **Endian** **UniFi**

Virtualization — Proficient

libvirt **oVirt** **Stateless Hypervisors** **PXE**

Software Development — Proficient

REST **Robot Operating System** **GTK+**

Game Development — Learning

Unity 3D **Pyglet**

Web Development — Proficient

HTML5 **CSS3** **JavaScript** **Semantic UI** **PHP** **Python** **Django**

Computer Graphics — Learning

Blender **GIMP** **Inkscape**

Text Editing — Master

Neovim **Vim** **Vi**

Documentation — Proficient

LaTeX **Markdown** **VimWiki**

PUBLICATIONS

Trust-Based Mixed-Initiative Teleoperation of Mobile Robots
American Control Conference
06 July 2016
http://ieeexplore.ieee.org/abstract/document/7526640/

Trust-Based Mixed-Initiative Teleoperation of Mobile Robots is a scheme for the bilateral teleoperation of mobile robotic systems using a quadrotor, ground robot, and a haptic feedback device. In the scheme, control is shared between human and autonomous controllers with the human controller having force feedback cues. Two-way trust models are calculated to dynamically scale each control input for optimal performance and reduced physical workload of the human operator. The results indicate that the proposed scheme improves task performance by 31% and reduces the operator workload by 23.9%.

Vision-Based Control of a Quadrotor
SC GSSM
01 February 2014

Vision-Based Control of a Quadrotor uses a quadrotor and its two mounted cameras to have the quadrotor perform basic analysis of its environment and make decisions based on it. It includes basic applications for following a marked path or object and an extensible interface for writing more complex autonomous logic.