Michael Shields

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Looking to utilize my skills and knowledge to solve complex problems and find solutions through coding and other aspects of computer science.

Education

University of Pittsburgh **Pittsburgh, PA**
Bachelors of Science - Computer Science *2011-2015*
GPA: 3.63

Experience

Northrop Grumman **Baltimore, MD**
AWACS Software Engineer *June 2016–Present*

- Added fault detection messages to the Airborne Warning and Control System (AWACS) radar GUI, by alerting the operator of a software or hardware fault, an example being the processors overheating.
- Enabled masking of fault messages, which disables unimportant messages being printed to the radar GUI; this functionality helps to keep better control of and not overflow the radar GUI in case the aircraft is in open combat or in a similarly dangerous situation.
- Extracted data using bitwise operations from messages being sent from a new processor board in the system to accurately detect any faults the system may be having.
- *C++/Ada/Clearcase/Clearquest/Visual Studio 13/UNIX*

VADER UI Engineer *January 2016–June 2016*

- Added new UI functions for the ground operator to the Vehicle and Dismount Exploitation Radar (VADER).
- New length units including yards, feet, and nautical miles were added for more accurate target detection.
- Added a function that allows the operator to adjust the height of the aircraft by inputting the desired altitude to fly to, allowing the operator to simulate different heights for target detection.
- Created a function that takes latitude and longitude as input and pinpoints that location on the virtual earth map of VADER.
- Used the Qt framework for some backend messaging in a separate VADER application to slightly decrease latency and clean up the code.
- *C++/C#/Qt/Visual Studio 10/Visual Studio 13*

Software Engineer *July 2015–January 2016*

- Created a file converter to convert text files to program specific binary files for the multi-million dollar radar they are used on.
- Created new algorithms for the radar to read the files and enable new radar modes in real time.
- Tested the successful addition of all of the new radar modes while retaining superior target detection.
- *C/C++/Clearcase/Clearquest/Eclipse*

Northrop Grumman **Baltimore, MD**
Software Engineering Intern *May 2014–July 2014*

- Created a virtual Windows and Linux environment for software testing.
- Created scripts for interfacing to several remote hardware devices for testing the sending and acquisition of data from those devices.
- Created a messaging API for sending commands via XML to the hardware on the virtual testing environment.
- Created a user manual for the product and an interface control document for the messaging API.
- *Python/Git/Linux*

The Bank of New York Mellon **Pittsburgh, PA**
Engineering and Automation Intern *May 2013–October 2013*

- Gave a two day presentation on the fundamentals of Java programming to a few employees for training.
- Created Korn shell scripts on a UNIX server to help with a large server migration.
- *Korn shell/UNIX*

CPRS Physical Therapy **Harrisburg, PA**
Information Technology Intern *May 2012–August 2012*

- Stripped hardware from older processor boxes to increase the performance of newer computers, preventing the purchase of new, expensive parts.
- Made several edits to the company's website, among them being more organized aesthetics, and new pages and links to those pages.
- Used the web content management system dotnetnuke to begin a few page edits of the company's new website.
- *HTML/Javascript*

Technical skills

Java, C/C++, Python, C#, Linux, UNIX, Git, HTML, Qt, VM VirtualBox, Javascript, ClearCase/ClearQuest, vi, Ada

Clearances

Secret Clearance