

BILLY HUGGINS III

209 D Hyde Park Court
Cary, NC 27513
bhuggin@ncsu.edu
(252) 933-5262

PROFESSIONAL SUMMARY

United States Marine Corps Veteran skilled in problem solving, analytics and efficiently completing tasks in high pressure environments. Actively seeking to apply skillsets within the Computer and Electrical Engineering field while further advancing from a fundamental knowledge base.

EDUCATION

North Carolina State University, Raleigh, NC

PhD in Computer Engineering
M.S. in Computer Engineering
B.S. in Electrical Engineering
B.S. in Computer Engineering

expected graduation: May 2021
expected completion: May 2019
degrees completed: May 2016

Lenoir Community College, Kinston, NC

A.S. in Engineering, Mathematics, Science

degrees completed: May 2013

SKILLS

- Technical Writing
- C
- Visual Basic
- Solid Works
- Leadership
- C++
- Linux/Unix
- AutoCAD
- Project Management
- C#
- Verilog
- JUnit Testing
- Problem Solving
- Java
- MATLAB
- Python

PROJECTS

ECE 720 – Electronic System Level and Physical Design (SystemC)

- Performance Analysis of SOC (System On a Chip) -vs- SOC + DMA (Direct Memory Access)
- Performance Analysis of SOC (System On a Chip) -vs- SOC + DMA (Direct Memory Access) utilizing SystemC
- Performed Place and Route of SOC + DMA RTL Design.

ECE 566 – Compiler Design and Optimization

- Designed optimized multiple compilers utilizing LLVM-C API.

ECE 520 – ASIC Design

- Designed a synthesizable Match Memory algorithm.
- One Byte data stream inputs were used to match largest word in memory unit.

ECE 506 – Parallel Architecture

- Used OpenMP to parallelize execution of C programs to perform performance analysis on 1, 2, 4, and 8 threads.
- Designed multiple caches utilizing different coherence and update protocols.

ECE 484/485 – Senior Design

- Designed and produced a cellphone GPS antenna enclosure to include hardware mounting and integration of system critical systems.
- Aided a team of four with designing and implementing a Python program to incorporate design requirements.

ECE 461 – Embedded System Design

- Wrote software to measure program's overall execution time and profile optimizing code to improve program speed.
- Designed a multithreaded application using a real-time operating embedded system for an Internet of Things (IoT) application and a virtual home monitoring device.

CSC 316 – Data Structures and Algorithms in Java

- Worked with a team of four to design, develop, and test a binary search tree and a social network to run within time constraints utilizing recursion and calculated run-time algorithms.
- Wrote black box and white box JUnit test cases to verify software performance and limit coding errors.

ECE 306 – Embedded Systems

- Created an autonomous vehicle utilizing a MSP430 using the C programming language with wireless and infrared capabilities.
- Designed, programmed and produced a Windows C# interface to control vehicle with a PlayStation or XBOX remote over a Wi-Fi signal.

PROFESSIONAL EXPERIENCE

Northrop Grumman – Technical Design Engineer Intern

May 2018 - August 2018

- Designed, tested and documented VHDL designs for Research and Development projects.
- Created bit-accurate Matlab models for the purposes of testing VHDL designs.

Northrop Grumman – Technical Design Engineer Intern

May 2017 - August 2017

- Designed, tested and documented VHDL designs for Research and Development projects.
- Created bit-accurate Matlab models for the purposes of testing VHDL designs.

HAECO Americas, Cabin Solutions – Avionics Design Engineer Intern

January 2015 - August 2015

- Designed and drew electrical diagrams using CAD software, produced bill of materials, to be used in the integration of Lavatory/Cabin Lighting, In-Flight Entertainment, and Passenger Seating avionics and electrical systems as well as the manufacturing of new aircraft components and monuments, to include passenger entertainment monitors, crew communications and emergency announcement systems.
- Updated existing wiring diagram and technical manuals to incorporate new designs.
- Communicated with other engineering groups, customers, and vendors to ensure all stages of design and modification were completed to minimize integration issues and cost to the customer.
- Generated test plans and reports to include Electromagnetic Interference (EMI), Radio Frequency Interference (RFI) and functional test plans.

Mountain Air Cargo – Avionics Technician

March 2010 - February 2011

- Performed maintenance during heavy maintenance checks according to FAA regulations on ATR 42, 72, and Cessna 208 model aircrafts.
- Installed and ran wiring for new and existing systems for updates to aircraft to include Automatic Flight Control Systems, Communication and Navigation Systems, and Aircraft Airframe and Power Plant Monitoring Systems.
- Retrofitted passenger aircraft for use as cargo aircraft.
- Inspected, troubleshoot, and repaired electronic systems within aircraft including: Communications Systems, Navigation Systems, Automatic Flight Control System/Flight controls, Engine and Transmission Monitoring Systems, Fuel Systems, Instrument Landing Systems with extreme accuracy to minimize future aircraft downtime and costs to the customer.

RELEVANT COURSEWORK

- Linear Systems
- Computer Programming
- Microelectronics
- Electromagnetic
- Computer Networking
- Wireless Communications
- Electric Circuits
- Embedded Systems
- Control Systems
- Logic Circuits
- Data Structures

MILITARY EXPERIENCE

U.S Marine Corps - Avionics Technician

June 2004 – April 2008

- Maintained and launched twenty CH46E helicopters in high-pressure environments with extreme accuracy.
- Inspected, troubleshoot, repaired, installed and updated wiring for new and existing aircraft avionics systems to include Communications and Navigation Systems, Automatic Flight Control System/Flight Controls, Missile Warning Systems, Aircraft Integrated Test System, Engine and Transmission Monitoring Systems, Blade Fold Systems, Fuel Systems.
- Trained new technicians with proficiency to maintain performance and quality of aircraft maintenance, keeping aircraft mission ready and preventing aircraft downtime.

AWARDS

Global War on Terrorism Service Medal

National Defense Service Medal

Marine Corps Good Conduct Medal

Meritorious Mast for Excellence (received twice)

Secret Clearance

COMMUNITY ENGAGEMENT

- Active member of Raleigh 500 AF&AM
- Active member of State College Lodge 770 AF&AM
- Active member of North Carolina State University Student Veterans Association