

Jacob Baker

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Education

University of New Hampshire, Durham, NH
Bachelor of Science in **Computer Engineering**

Expected Graduation: May 2020

Overall GPA: 3.44

September 2016 - Present

- Honors Program
- Hamel Scholarship

Completed Coursework

- Data Structures, Computer Organization
- Assembly Language & Machine Programming, Design with Programmable Logic, Emb. Microcomputer Based Design
- Systems and Signals I / Honors, Electromagnetics, Random Processes & Signals / Honors, Electronic Design I

Skills

- Languages: Java, UNH-IOL BitPhyer scripting language (CTS), C++, C, VB.NET, Verilog, HTML, CSS
- Hardware: Construction, deconstruction, upgrading, and maintenance of personal computers
- Equipment/Software: BitPhyer test tool, Wireshark, Waveform Generators, Logic Analyzers, Visual Studio, Vivado
- Other tools: Git, BitBucket, Agile Development

Leadership Experience

Boy Scout leadership positions held

September 2010 - June 2016

- Earned ***Eagle Scout*** rank July 27, 2016
- Troop Guide and Troop Instructor: Teaching and helping new scouts with advancement
- Senior Patrol Leader and Assistant Senior Patrol Leader: planning activities, leading the troop
- Den Chief: Working with Webelos in the Cub Scout pack prior to crossing into Boy Scouts

Work Experience

University of New Hampshire Interoperability Lab, Durham, NH

Test Technician, Senior Developer

October 2017 - Present

- Earned an IOL Star award, August 16, 2019
- Testing Ethernet devices for conformance with IEEE 802.3 Clause 4 (MAC) and Clause 31 (MAC Control)
- Development of the UNH-IOL BitPhyer Ethernet test tool software and hardware
 - Software: VB.NET, C#
 - Wrote CTS scripting language automated test suites for Clause 4 and Clause 31
 - Added new software features including half-duplex results parser and 8B10B encoding/decoding
 - Rewrote parts of the Automotive BitPhyer software to support the new KC705 hardware.
 - Added ability to choose a bitstream file to update the hardware with via the BitPhyer software
 - Hardware: Xilinx FPGA KC705 Evaluation Board, Verilog, C
 - Developed an SFP PHY in Verilog to allow for fiber Ethernet testing through the on-board SFP cage
 - Wrote features in the BitPhyer embedded C to read a bitstream file via XMODEM over UART and write the bitstream to the onboard flash with error checking