Benjamin Gerber

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Profile

Determined worker with experience in multiple industries including manufacturing, computers, and medical devices. Specializes in embedded hardware design with skill in signal integrity, medical devices, and wireless design.

Experience

Nonin Medical Inc **Plymouth, Minnesota**

R&D Intern - Measurement Technology. *May 2018 - August 2018*

- Designed optical photo-diode characterization bench to help eliminate production costs and increase profits
- Helped reduce signal noise through Matlab functions for extracting spectrometer measurements in red bands
- Shortened time spent on LED characterization by revising circuit and rewriting Arduino driver code

Graco Inc. **Anoka, Minnesota**

Electrical Engineer Intern *May 2017 - August 2017*

- Delivered proof of concept of my own design for guided wave radar EM media sensor for future product
- Solved performance issues in upcoming products using with hardware test engineering skills
- Found and eliminated numerous sonar, sensor, and power bugs in embedded system designs

HGST, a Western Digital Company **Rochester, Minnesota**

System Integration Technology Lab Intern *May 2016 - December 2016*

- Saved hundreds of man-hours per year by scripting automated debugging processes for black box tests
- Slashed major repair costs and increased efficiency with experience in hardware troubleshooting
- Led small team in testing of NVMe drives and educated team on procedures and tools of operation

Education

North Dakota State University **Fargo, North Dakota**

B.S. in Electrical Engineering | GPA: 3.575 | Dean's List *Graduation June 2019*

Relevant Coursework

Signal Integrity	Applied Electromagnetics	Embedded Systems	Cardiovascular Engineering I & II
Digital Design	Signals & Systems	Biomedical Engineering	Communication Circuits

Engineering Projects

REM Sleep Cycle Monitor | Senior Design *August 2017 - May 2018*

- Invented circuit to capture REM cycles through EOG signals and relayed them over Bluetooth
- Improved user comfort by reducing PCB size and creating headband mount for enclosure
- Created an android app to analyze sleep patterns and use in developing algorithms for research

Microfluidic Cell Printing Research | Undergraduate Research *August 2017 - May 2018*

- Researched bioreators and other techniques to keep cell spheroids alive in a 3D enclosed space
- Minimized backflow and throughflow problems through designing simulations collaboratively with team
- Assisted in writing a journal paper published in Biomedical Sciences Instrumentation Journal, 2019 edition

Technical Skills

Hardware:	RF Design, Transceiver Architecture, Circuit Design, PCB Design, Filter Design, Optics
Software:	Altium Designer, Matlab, DesignSpark, Kicad, Arduino, Linux, Solidworks, FreeCAD
Programming:	C, C++, Java, Powershell, Bash, Assembly Language, TCL, Python, HTML, LaTex