

# Erik Nyquist

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## Personal Details

**Website** – <https://www.ekn.io>  
**GitHub** – [eriknyquist](https://github.com/eriknyquist)  
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## Areas of Expertise

### Programming Languages

C  
C++  
Python  
UNIX shell scripting (bash, sh)

### Tools/Technologies

Git  
Github  
Gitlab  
GCC/Clang  
Gimpel PC-lint/Flexelint  
Makefiles  
GNU ld (linker) scripts  
Protocol Buffers (protobuf)  
PyQt  
GDB  
Valgrind  
L<sup>A</sup>T<sub>E</sub>X  
Jenkins  
JIRA  
Unity/CMock  
Doxygen  
FreeRTOS  
CAN/CANopen  
nRF52 SOCs  
STM32 SOCs  
PIC32 SOCs  
Cypress/Infineon SOCs

## Personal skills

- Test-driven development
- Fault finding and debugging on custom embedded systems
- Custom board/hardware bringup
- Firmware system design for memory constrained embedded systems
- Rapid prototyping/testing with Python or UNIX shell scripting
- MISRA C compliance via static analysis tools

## Interests

- Compiler design & implementation
- Programming language design & implementation
- Playing music (drums, piano)
- Music recording & production

An enthusiastic and skillful software/firmware engineer with over 12 YOE. Wide-ranging experience in design, development & validation for embedded software systems in the commercial and medical spaces. Accustomed to delivering and enforcing high quality code, tests, and documentation. US citizen.

## Experience

### **Sr. Firmware Engineer, NOVO Engineering Vista, CA**

**Aug. 2017 - present**

Designing and developing firmware and software for commercial products and IEC-62304 compliant medical device products (RTOS and bare-metal).

- Participated in design/development of firmware for multiple medical device products (subcutaneous glucose monitoring patch, "smart" insulin pen cap, portable defibrillator system, DNA sequencing instrument)
- Participated in Design Verification testing for multiple medical device products
- Participated in creation of software development lifecycle and verification documentation for multiple medical device products

### **Software Engineer, Intel San Diego, CA**

**Aug. 2016 - Aug. 2017**

Participated in development of low-level hardware drivers and firmware for Intel's low-power SoC products with a small team, including Intel's Galileo, Joule and Curie modules (Linux, RTOS and bare-metal). Most notably, the Intel Arduino 101 development/maker board.

- [www.github.com/01org/corelibs-arduino101](https://www.github.com/01org/corelibs-arduino101)
- [www.github.com/01org/Intel-Pattern-Matching-Technology](https://www.github.com/01org/Intel-Pattern-Matching-Technology)
- [www.github.com/01org/zephyr](https://www.github.com/01org/zephyr)

### **SoC Software Engineer, Intel Ireland**

**Aug. 2012 - Apr. 2016**

Started as an intern after college, became a permanent employee after 6 months. Eventually participated in development/testing of Linux-based software & drivers for Intel Quark SoCs, bringing the Intel Galileo board (first x86-based Arduino board) from design to market, pre-silicon emulation testing/verification for Intel Quark SoCs, and new silicon bringup for Quark SoCs.

## Education

### **Master of Science, Computer Science**

University College Dublin, Belfield, Ireland. Graduated 2015.

### **Bachelor of Engineering, Audio Visual Media Technology**

Dun Laoghaire Institute of Art, Design and Technology, Dublin, Ireland. Graduated 2012.

## Notable Github projects

- [www.github.com/eriknyquist/ptttl](https://www.github.com/eriknyquist/ptttl)
- [www.github.com/eriknyquist/arduinozero-metronome](https://www.github.com/eriknyquist/arduinozero-metronome)
- [www.github.com/eriknyquist/duckargs](https://www.github.com/eriknyquist/duckargs)
- [www.github.com/eriknyquist/deep\\_space\\_trader](https://www.github.com/eriknyquist/deep_space_trader)