Erik Nyquist

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Personal Details

Website – https://www.ekn.io
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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
LaTeX
Jenkins
JIRA
Unity/CMock
Doxygen
FreeRTOS
Zephyr RTOS
CAN/CANOpen
Nordic 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 commmercial and medical spaces. Accustomed to delivering and enforcing high quality code, tests, and documentation. US citizen.

Experience

Lead Firmware Engineer, NOVO Engineering
Senior Firmware Engineer, NOVO Engineering
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`
- `www.github.com/01org/Intel-Pattern-Matching-Technology`
- `www.github.com/01org/zephyr`

SoC Software Engineer, Intel
Ireland **Aug. 2012 - Apr. 2016**

Started as an intern, made permanent after 6 months. Participated in development/testing of Linux user-space software & drivers for Intel Quark SoCs, bringing Intel Galileo board (first x86-based Arduino board) from design to market, pre-silicon emulation testing/verification for Intel Quark SoCs, 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 (personal) Github projects

- `www.github.com/eriknyquist/ptttl`
- `www.github.com/eriknyquist/arduinozero-metronome`
- `www.github.com/eriknyquist/duckargs`
- `www.github.com/eriknyquist/deep_space_trader`