Erik Nyquist

August 13, 2024

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/Environments
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

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 a comprehensive knowledge of development and validation practices for embedded software systems. Accustomed to delivering and enforcing high quality code, tests, and documentation.

Experience

Sr. Firmware Engineer, NOVO Engineering
Vista, CA — **Aug. 2017 - present**

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

- Participated in design/development of firmware for multiple medical device products (closed loop insulin delivery system, "smart" insulin pen cap, portable defibrillator system), using various SoCs (nRF52, STM32, Cypress/Infineon, PIC32)
- 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**

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