DAN LONNGREN

PUTNEY, LONDON

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Firmware engineer with mechanical engineering background and over one year experience working on safety critical embedded systems, designing, developing and testing from proof of principle to several prototype iterations. Very keen to move into a new position to further challenge myself and start developing a wider variety of skills, in addition to improve my current knowledge.

Skills

- Practical experience with IEC 63062 Medical Software lifecycle and safety critical software
- Good ability to debugging using oscilloscopes, multimeter and J-Link (SWD)
- Ability to develop drivers and libraries from datasheets and schematics
- Experience writing technical documentation and reports
- Tools: ARM (Cortex-M4), AVR, Nordic nRF52 chipsets, BLE, Segger Embedded Studio, Atmel Studios, Arduino, cMake, Doxygen
- Languages: c/c++, Matlab, Python, html, css

Employment

Firmware Development Engineer — Feb 2018 - Present

MW Diagnostics (Molecular Warehouse), Guildford

- Working in a small team of two designing and developing safety critical firmware for small, BLE enabled medical device in accordance with IEC 63062 medical software standard
- Worked closely with electronics team to assist with hardware designs and debugging
- Writing documentation, software requirement specs, data structures, system risk assessment
- Developed custom non-preemptive priority based scheduler, RFID drivers, custom BLE services and graphical user interfaces.
- Working closely with Electrochemical team developed potentiostat algorithm for blood measurement
- Designed and implemented custom firmware to aid in electrochemical sensor development and data analysis.
- Assisted in maintaining C# data processing software and write custom python scripts
- Worked with wide selection of sensors and hardware such as ADC, Potentiostats, RFID, OLED drivers, RTC, TWI, SPI, battery management and temperature sensors.

Firmware Intern Engineer — Nov 2017 - Feb 2018

Molecular Warehouse, Guildford

- Researching methods for ambient temperature prediction and device temperature analysis
- Worked with electronics team writing custom firmware to debug hardware and new designs
- Developing drivers, libraries, debugging and maintaining code

Education history

Queen Mary University of London, London

Mechanical Engineering with Foundation Year, BEng — Sep 2013 - Jun 2017

- Final Grade: High 2:1
- Final year project developed, simulated and integrated quad-copter control system using PID and Fuzzy Logic on a resource constrained arduino platform

Swedish Sixth-Form, Swedish School in London — Sep 2006 - Jun 2009

Own Projects

- Developing BLE enabled Quad-copter Flight Controller using Fuzzy Logic controller and quaternions.

Personal history and Interests

- Born in Sweden 1990 and moved to London 2001
- Fluently in English and Swedish
- Hobbies: Skateboarding, Bouldering, photography, cars, building and flying Quad Copters