Christopher Matthews

iOS Developer - AgaMatrix

Washington, DC - Email me on Indeed: indeed.com/r/Christopher-Matthews/1bf1cec7077085a0

Authorized to work in the US for any employer

WORK EXPERIENCE

iOS Developer

AgaMatrix - Salem, NH - July 2015 to Present

Currently writing data management applications for bluetooth-enabled blood glucose meters. The iOS app syncs and downloads readings from the meter. The app includes user profile management, data management (tracking glucose, insulin, carbohydrate, and weight data), data presentation, pairing and syncing with the bluetooth meter, and syncing data with the cloud. Roles and responsibilities include adding new features, as well as keeping specifications and automated tests up-to-date.

Features that were added to iOS AgaMatrix Diabetes Manager Application include:

- The UI workflow for bonding and syncing with the bluetooth meter.
- Reminders feature: time-based, event-based, and custom reminders.
- Data sharing feature with third-party vendors.
- HealthKit integration.

Currently working on next-gen Continuous Glucose Monitor (CGM) application. Defining the new CGM-specific application from ground up. Taking a test-driven development approach, defining all functionality, behaviors, and tests before writing code.

Technologies include UIKit, CoreData, CoreBluetooth, AFNetworking, and automated testing via Cucumber and Frank, as well as XCTest.

Firmware Engineer

AgaMatrix - Salem, NH - October 2014 to July 2015

Wrote code and tests for a cutting-edge bluetooth-enabled blood glucose meter. Code targeted a MSP430 microprocessor. Implemented a round-robin scheduler for various tasks. Wrote firmware drivers for flash, timers, I2C, SPI, UART, and OLED display. VectorCast used for unit tests and code coverage analysis.

Software Engineer II/III

Philips Healthcare - Andover, MA - May 2011 to October 2014

Implemented image processing algorithms for 2D, 3D, and 4D cardiac ultrasound acquisitions. Algorithms quantify geometry and dynamics of heart walls and valves. The majority of my time is spent interfacing and collaborating with scientists (Investigations Group), as well as porting Investigations MATLAB algorithms into C++ product code. Extensive use of Intel Performance Primitives (IPP).

- Replaced the CMQ tracking algorithm in Qlab 9. The new tracking algorithm greatly

increased the accuracy and reproducibility of the Global Longitudinal Strain calculation, as well as improving regional strains.

- Updated ROI editing and rendering in 2DQ and CMQ. Rendering done in GDI.

- Introduced AutoROI for a2DQ/aCMQ for Qlab 10. Used a template matching technique to identify the two basal points, as well as the apex point. The result was a big leap forward towards Qlab's goal of "zero-click technology".

- Replaced the 3D Mitral Valve Quantification plugin with 3D Mitral Valve Navigation plugin in Qlab 10. The new plugin uses a directed gradient search to find the mitral valve, using
only four user seed points. The outcome was a reliable measurement, with less user input and much easier workflow.

- Received the "Excellence in R&D Award" in September 2012.

Software Engineer

Herrick Tech Labs - Manchester, NH - January 2009 to May 2011

Developed SIGINT and geo-location products. Worked in Linux and Windows environments, writing Qt-based C++ applications. Wrote both GUI and application layer code for PC tools. Was responsible for Qt3-to-Qt4 ports of existing applications, as well as writing new desktop applications. Developed embedded code on the TI TMS320C6400 DSP. Utilized Qt wrapper classes for TCP/IP and MySQL interactions.

Involved in all phases of product development including design, specification, implementation, verification, and validation.

Software Engineer

Insulet Corporation - Bedford, MA - October 2007 to December 2008

Worked as an embedded software engineer in an FDA-regulated medical company. The bulk amount of R&D time was allocated to a two-piece RF insulin pump system. The system consisted of a hand- held device, and a small wireless pump that adhered to the body for three days. Responsibilities
included unit and functional testing, correcting bugs, creating optimizations, and proposing new features. Worked with various microprocessors, flash, timers, I2C, RS-232, UART, USB, RFIC, and IR communications. Coded mostly in ISO C 99, with some ARM9 assembly.

EDUCATION

Bachelor of Science in Electrical Engineering

Union College - Schenectady, NY
March 1991 to April 2000

SKILLS

C++ (5 years), MATLAB (3 years), LINUX (2 years), .NET (Less than 1 year), ECLIPSE (Less than 1 year)

ADDITIONAL INFORMATION

Computer Skills

C, C++, Qt Toolkit, Objective-C, MATLAB, git, svn, MS Visual Studio, Xcode, Eclipse, Linux/UNIX environments