

# Nicholas Kundu

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## **Software and Language Proficiencies**

C#, ASP.NET, MVC, WebAPI, Web Forms, Windows Forms  
C, C++ (Boost, MFC, Qt and Win32 API), Java  
node.js, jQuery, Bootstrap, JavaScript, HTML5, CSS3  
SSRS, DB2, MSSQL

Visual Studio 2015, Eclipse, Jenkins CI  
SOAP, JSON Web Services  
fiserv XP2, Silicon Labs USBXpress, HID class USB devices  
National Instruments NI-DAQmx and NI-VISA  
Infragistics for WinForms, Codejock Toolkit for MFC  
DirectX Capture, DirectSound

SPI, I2C

## **Work Experience**

### **Senior Application Developer (Oct 2015 - Present)**

**Digital Credit Union**

### **Application Developer (Jan 2014 - Oct 2015)**

Digital Federal Credit Union (DCU) is one of the top 20 credit unions in the US.

- Performed design feasibility and prototyping during requirements gathering as a part of the agile process
- Developed custom interactive forms, and member driven process automation available online at [dcu.org](http://dcu.org) and in the DCU mobile app
- Wrote performant SQL and high availability web applications to efficiently support usage by DCU's 500,000 members
- Developed responsive web applications to enhance the mobile experience without duplication
- Integrated 3rd party vendor products into online banking or mobile banking via SSO
- Developed custom applications to extend XP2 core functionality, using both fiserv APEX SOAP API and direct database updates
- Improved business process through automation, reporting, and vendor file parsing
- Developed or extended internal web applications, including those for member authentication via SMS and sales/conversion reporting, tracking, and targeting
- Implemented data warehousing and reporting for Diebold cash recyclers across all branches
- Set up CI and automated testing for projects through Jenkins

### **Lead Software Developer (2007- Dec 2013)**

**Delsys, Inc.**

Delsys develops software and hardware used by researchers in the field of electromyography (EMG) to study the operation of human and animal muscular systems.

- Technical lead for all software projects. Collected requirements, developed prototypes, designed application architecture, coded new software, tested, developed brochures and marketing strategies, and supported client installations.
- Developed a suite of software applications that communicate with custom hardware test platforms and test equipment to perform manufacturing acceptance testing of mixed-signal electronics.
- Developed EMGworks Acquisition through version 4.1, a Windows Forms based product for real-time data acquisition, data filtering, storage, and plotting.  
(<http://www.delsys.com/products/software/emgworks/>)
- Maintained and extended a C++ MFC application, EMGworks Analysis

- Integrated Google's V8 JavaScript engine to allow users to write custom processing routines.
- Developed novel real-time filters for processing the electromyographic signal to reduce noise.
- Implemented Kalman data fusion filters on data from inertial sensors to correct for inherent sensor drift and offset.
- Developed Qt user interfaces for a custom hand-held device (embedded Linux on a TI OMAP processor). Developed Windows drivers for the vendor-defined USB-HID protocol for this device.

### **Independent Consultant (2010-2013)**

- Developed a system consisting of real time video processing hardware and smart phone applications (on iOS and Android) to communicate with this hardware.

### **IT Internship (2005-2006)**

### **Bose Corporation**

- Developed new features and fixed bugs in the Bose version of Oracle Retail's POS application. Performed software integration of Hypercom pin pad.
- Developed Java application to create and distribute pricing rules to multiple Oracle Retail BackOffice databases by reverse engineering the database design.
- Worked with Oracle team to integrate LDAP authentication into POS application, handling security and encryption of off-line data. Rewrote and fixed check MICR reader functionality.
- Performed maintenance on IBM 4694 terminals, quality assurance testing, and remote updates and maintenance.

### **Microchip Simulation Laboratory (2003-2004)**

### **Boston University**

- Designed and wrote new simulation software in C++ to model the scattering of light off a molecular-sized object suspended in water, and onto a photo diode array.
- Modified and enhanced existing software written in C to collect data of the ionization of "Rydberg" atoms under the effects of strong electromagnetic waves, and wrote a Java Applet to visualize this data.

### **Education**

Masters of Science  
Computer Systems Engineering  
Boston University, December 2007

Bachelor of Science, Magna Cum Laude  
Computer Systems Engineering  
Boston University, May 2007

Boston University Trustee Scholar  
AP Scholar with Distinction  
SAT I: 1570 (out of 1600)