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SUMMARY

I love developing software and solving programming problems. My development skills are well rounded – I have demonstrated expert proficiency in most aspects of professional software development including data structures, algorithms, design patterns, database design, user interfaces, etc. I focus on results and pay close attention to detail.

EDUCATION

North Carolina State University
BS Computer Science, May 2005, 3.6 GPA
Cooperative Education Program, University Scholars Program, Magna Cum Laude

PRIMARY LANGUAGES AND TECHNOLOGIES

Python, C, Java, Objective-C, SQL, HTML, CSS, JavaScript

EXPERIENCE

Software Developer at Advanced Liquid Logic (August 2008 - Current)
- Developed the Assay Development Environment (ADE), an application that...
  - Allows users (biochemists and engineers) to develop programs for microfluidic devices by building drag-and-drop flow-charts instead of writing code.
  - Is used daily by dozens of co-workers to develop, simulate and run experiments.
  - Includes sophisticated algorithms for compiling diagrams into runnable code, synchronizing droplet operations, compressing programs, visualizing simulations, etc.
  - Was pretty much the coolest software I've ever created in the workplace.
- Developed Spot Logic, an application that...
  - Is the software portion of a product used to test newborns for several genetic diseases.
  - Was deployed in Illinois and Missouri for newborn screening.
- Developed "The Fridge", a web application that...
  - Records metadata and results for experiments in a centralized database (over 20,000 runs).
  - Includes a sophisticated web interface for viewing and managing data.
- Developed a touch screen user interface for a DNA sample preparation instrument.
- Developed an application that utilized an XYZ stage and a USB camera to optically validate cartridges manufactured in-house.
- Developed a web application with a desktop client for performing QC tests on disposable cartridges and recording the results.
- Developed a web application for managing product keys for activating our software.

Software Architect and Project Manager at TopCoder (July 2005 - May 2008)
- Developed the grammar for a proprietary scripting language and designed the software to parse, validate and interpret these scripts in both live and historical stock market contexts.
- Designed a virtual trade engine to simulate order executions by processing stock market feeds and a real-market trade engine to forward orders to live exchanges.
- Developed several utility applications including:

- Software to monitor systems and email administrators in the event of failures.
  - Software to generate statistical and administrative reports and charts.
- Optimized database tables and procedures as necessary to improve performance.
- Designed a web-based survey application.
- Developed an internal tool for tracking upcoming TopCoder competitions.

Programmer (Co-op) at IBM (January 2004 – June 2005)
- Designed and developed a flexible software framework to reduce the time and effort required to create industrial automation solutions.
- Built a simulated oil pipeline to visually demonstrate the capabilities of our platform.
- Received an individual evaluation of "Outstanding" (the highest possible) after completing the Extreme Blue internship program.
- Developed a web-based app for monitoring traffic on a topic-based messaging framework.
- Developed and tested an AOL "channel adapter" using the TOC protocol to enable the INS product to send notifications to instant messenger users.
- Implemented a "Dock Door Receiving" demo to showcase IBM's RFID platform.
- Created an interactive, SWT-based user interface for the demonstration.
- Developed a servlet-driven webpage for ordering new inventory from a virtual distribution company for the demonstration.
- Helped create an application using the Eclipse RCP framework for viewing virtual inventory and shipments for the demonstration.

Programmer (Co-op) at REM Services (January 2002 – August 2003)
- Developed a web page to display real-time weather data collected on-site.
- Developed COM-based software to retrieve data from the DeltaV process control system for use in other software.
- Developed Pocket PC software to assist execution of hardware test procedures.
- Designed and developed software to wirelessly integrate Pocket PC devices with DeltaV systems, allowing operators to access data previously available only on desktops.
- Developed software to generate documentation from DeltaV configuration files.
- Developed a website to showcase in-house software and demos.

SELECT PERSONAL PROJECTS
- Feed Notifier: http://www.feednotifier.com/ (Python)
    RSS system tray notifier for Windows with over 5000 active, happy users.

- Star Rocket: http://itunes.apple.com/us/app/star-rocket/id419027792?mt=8 (Objective-C)
    Space-themed, collect-the-stars game for the iPhone with over 100 levels.

- iMeme: http://www.michaelfogleman.com/imeme/ (Objective-C, Python)
    iMeme is a meme generator for Mac OS X and Windows. Became very popular.

MORE PROJECTS
- http://www.michaelfogleman.com/projects/
- https://github.com/fogleman
- http://stackoverflow.com/users/90308/foglebird