Benny Fang
E-mail: bfang.01234@gmail.com
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Technical Skills

Software Languages:

- Web Configuration and Development (html, ASP, CSS, JavaScript, PHP) - **1.5 year**
  - Framework/format: JQuery, JSON, Bootstrap, AngularJS
- ASP.NET (VB, C#) - **1 year**
- Object-Oriented Languages (C, C++, Java) - **5 years**
- SQL Database (MySQL, T-SQL, PostgreSQL, Java ODBC) - **1 year**
- Scripting (Linux Shell Script, VB Script/Macros) **- 1 year**
- Workforce Formula Language - **3 months**
- iOS App Development (Swift) - **introductory**

Platforms and Tools:
Microsoft Visual Studio, Microsoft Dynamics CRM, Eclipse, Jekyll, Unity, XCode, Workforce
SCM Tools:
Microsoft Team Foundation Server (TFS), Git, Subversion (Linux)
Operating Systems:
Microsoft Windows, MacOS, Linux/UNIX
Others:
Multi-threading and optimization, Data structures and algorithms, VR/AR, MVC architecture

Work Experience

April 2017 - Now
HCM Solutions Consultant - GroupeX Solutions, Ontario:

- Program remotely as a solution consultant to configure the Workforce software using its in-house Workforce Formula Language similar to JavaScript
- Handle a plethora of complex system components such as Workforce interface, timesheet, data element and roles and securities
- Debugged defects for GroupeX's existing clients to change existing OverTime rules
- Work closely with current team via Skype to setup Workforce environment for new client

May 2014 - May 2015
System Developer - City of Brampton, Ontario:

- Enrolled in Professional Experience Year (PEY) co-op program for one year working as a System Developer in the City of Brampton to focus on Microsoft-related technologies.
- Customized Visual Basic (VB) scripts for Excel to automate data retrieval from server
- Queried data for fire incidents from Microsoft SQL server and categorized them into types and years, which was then translated into a heat map presentation
- Took over Application Inventory Depository project (ASP.NET framework) written in VB.Net and launched it into production after resolving over 50 existing bugs and testing via back-end SQL manipulation
- Designed the Transit Incident Tracking System (**see page 2, second project**) to address the city's need for an online, easy-to-use tracking system

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Programming and Engineering Projects

September 2015 - April 2016

Team Lead of a Real-time Piano Simulator Project - University of Toronto:

- Handled a project in a team of 4 to recreate authentic piano sound at real time by simulating complex physical piano mechanism rather than simple piano key sampling
- Divided the team into 2 groups: the algorithm team responsible for calculations and research, and the programmer team responsible for software-hardware implementations
- Visualized the piano sound algorithm as a function of time and initial key-strike velocity to simulate the action of the hammer striking the string inside the piano
- Initially ran algorithm in matlab, converting calculated sample sound vectors into a playable sound wave
- Migrated to C++ due to its superior runtime and available means of optimization such as multi-threading and blocking
- Implemented hardware integration with a electric piano via USB ports and programmed generated sound onto each piano key
- Demonstrated design at the annual University of Toronto design fair, allowing users to play with the piano freely while generating sound at real-time as keys were struck

August 2014 - February 2015

Developer of the Transit Incident Tracking Solution - City of Brampton:

- Approached by the City of Brampton's Transit Department representative to create a system tracking transit incident records within the City of Brampton
- Designed the system using the Microsoft Dynamics CRM 2011 platform
- Drafted Excel document to outline schematic and relationship information and implemented entities and forms (like tables in SQL) to store incident information
- Customized the entities with JavaScript and JQuery to integrate smart forms to auto-fill information, hide and show fields to users with different roles and grey out unnecessary fields based on drop-down options
- Built automated email sender using Microsoft CRM workflows and dialogs
- Held weekly meetings with the client and the project manager for feedbacks
- Presented design to the client and power-users and delivered the system into production

January 2014 - April 2014

Member of a VR Design Project Team - University of Toronto:

- Engaged in an VR application development project in C# on the Unity platform
- Participated in a group of 3 and was assigned the task to brainstorm project design and elements to implement due to my prior music background
- Created a virtual music player that respond to hand gestures to the sensor camera
- Placed audio player on a virtual 3D plane and scaled music volume to the user's distance from the player (the sound was strong if user was close and weak if user was far)
- Supported multiple music players and placed audio control buttons to play and stop the music, as well as adjusting the volumes of each player through hand gestures only
- Allowed project to be passed on to future VR developers with drafted technical documentation and packaged libraries

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Personal Projects

February 2017 - April 2017

Creator of My Personal Website:

- Drafted an individual website using GitHub platform powered by Jekyll
- Involved HTML elements that form the website layout as well as CSS for styling
- Utilized Jekyll's layout functionality to set up layout html and use content block for other index html elements
- Wrote custom JavaScript to support sidebar tab browsing in cv section
- Imported Bootstrap to achieve responsive website design
- Pulled CV from pdf to website and added graphic elements such as interactive tabs, buttons and images

April 2009 - June 2009

Developer of an Text-based Game:

- Designed a text-based game in C++ with roleplaying elements
- Drafted the game based on the famous Japanese animation, Dragon Ball Z
- Incorporated 'fun' elements in the game, such as secret cheats, routes and items, as well as complex elements such as a battle system with random number generator
- Implemented flowchart to represent flow of the storyboard and game progression
- Logged progress with a programmer's journal
- Subjected the game to peer marking and received positive feedback

Education

September 2011 - June 2016

Bachelor of Applied Science and Engineering - University of Toronto, St. George Campus:

- Major in Computer Engineering, Minor in Engineering Business

Hobbies, Interests and Other Skills

- Music playing (Piano - 13 years, Alto Saxophone - 4 years at school band)
- Japanese culture
- Cooking / tasting
- Tech gadgets and PC gaming
- Fluent in Mandarin and Intermediate in Japanese