Yang Lu

Software Engineering 2B

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SKILL HIGHLIGHTS

- Agile/scrum methodology
- The engineering process
- Command line
- Eclipse, GPS and Android Studio
- Unix (Linus, Solaris), Windows
- C, C++
- Java
- T-SQL
- ADA
- HTML, JSON

PROFESSIONAL EXPERIENCES

General Dynamics Mission Systems – Software Engineer January 2017 – April 2017

Embedded in a 20-person software development team to work on the Maritime Helicopter Project – Mission Data Management System (MHP-MDMS) version 2.0 release, which is a massive military data processing and prediction project for use by the Royal Canadian Air Force on their new Cyclone helicopters.

- Referenced, created, and edited comprehensive system documentation on all stages of the top-down development process
- Formally verified, redlined, and executed multiple inspection, analysis, and white-box test cases
- Located and fixed bugs in ADA, python, and C
- Collaborated closely with team leads and mentors to plan and design robust solutions
- Conducted impact analysis for various changes
- Raised, analyzed, implemented, and verified problem reports using Rational ClearQuest
- Pushed new working baselines and handled merges with Rational ClearCase

Ontario Shores Center – Business Intelligence Developer May 2016 – August 2016

Worked in a 3-person team to implement a business intelligence project, among other tasks, for the Decisions Support team. The project is a report automation project to parse through a multi-million entry SQL database and generate detailed, layered reports without dedicating significant manpower to update it every month.

- Primary contributor in all phases of the systems development life cycle (SDLC) for the project
- Created SQL scripts, views, functions, tables, etc. in SQL Server Management Studio
- Built reports and templates with drill-throughs, menus, tabs, and user parameters in Visual Studio
- Communicated with supervisors and managers to push for higher utilization of technology in a very non-technical and traditional environment. Sped up report delivery from weeks into mere minutes
- Interacted with hospital staff for user feedback and incorporated requests while maintaining system integrity, versatility, and speed

Below the Cup, Junior Achievement Company — CTO September 2014 – February 2015

An established program that built a short-term company comprised of students so give everyone experience in the corporate structure as well as running a start-up

- Elected as CTO and led my own department
- Designed and built the company website from scratch, integrated HTML to synchronize with twitter feed
- Wrote shareholder and department reports

HACKATHONS

Hack the North 2016 – September 2016

- Augmented reality (AR) Android shopping app
- Take a picture of merchandise and it will analyze the image to identify the object. Then it will compare it with a database the user sets prior to display a price tag in Bitcoin as well as local currency. Finally, with a simple click, it can then process the payment for maximum user convenience
- Google Cloud Vision, Firebase, XE, Coinbase, Android

MLH Spring Finale 2016 – August 2016
- Wearable tech to allow mouse cursor control without using your hands
- The user wears a pair of fake glasses (or attach to their real one). The Arduino attached to the glasses translates gyroscopic data from tilting the head into Y and Z axis movement. This corresponds with the cursor location on the screen
- Android, BluetoothLeGatt, Firebase

Watson IoT Hackathon – July 2016 – top 5
- Reactive tour guide software
- User passes by sensors in a mock exhibit, the data gets piped to IBM's Watson AI who will gather information on google, format it, then text facts and information to the user's phone. You can also ask it questions like a real tour guide
- IBM Watson AI, Node-Red, Julia-Pi, Node-js, Twilio

PROJECTS

2-D Rubik's Cube Simulator
- Java using Netbeans & Eclipse IDE
- Built a colored user interface by drawing a net pattern for the cube, complete with buttons and prompts
- Built in features include randomizing the cube, rotating the faces, a tentative solving algorithm, undo and redo, among many others

KC3 Kai Viewer – Chrome Extension
- Massive open source, community contributed Github project
- Online viewer, assistant, and overlay for a browser-based Japanese video game
- Screen overlays including node numbers on sortie maps, translated quest strips, and subtitles
- Multiple timers for (sometimes hidden) various in game stats as well as desktop notifications to
- "Predictive" battle and development results, among various other helper widgets
- Strategy room that tallies equipment and ships and maintains records

CE Memory Scripts and Mods
- Assembly language using CE & Notepad++
- Tested for client vs. server interactions inside various video games
- Packet analysis and bit comparisons to locate points of interest in the code
- Utilized CE to edit memory addresses of client processes to give myself advantages such as invulnerability, no cooldowns, increased damage, etc.
- Built scripts and packets to automate repetitive in game actions and events

SOCIAL ACTIVITIES & VOLUNTEERISM

UWaterloo Mathematics Society — Class Representative/Councillor September 2015 – Present
Elected as Software Engineering representative for the school's Mathematics Society (MathSoc)
- Bi-weekly meetings to plan and organize MathSoc events
- Participated in established democratic processes to budget for clubs and their own events
- Polled and talked to my classmates about any complaints they may have, as well as to relay information

Telus SPARK, the Science Center — Volunteer Facilitator May 2012 – July 2015
Rotated across multiple positions in a science center including front desk, theatre presenter, lab demonstrator, facilities maintenance, safety proofing, and guest supervision
- Total of 450 hours of volunteer work
- Deconstructed, modified, and then reconstructed a variety of electronics for demonstrations and experimentation by guests of the science center
- Monitored exhibits, answered scientific inquiries
- Coordinated lab experiments and group activities