

Yang Lu

Software Engineering 3A
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SKILL HIGHLIGHTS

- Agile/scrum methodology
- Command line
- Eclipse, Visual Studio, Android Studio
- Linux, Debian, Solaris, Windows
- Amazon Web Services (AWS)
- C, C++, Java, ADA
- T-SQL, Apache Ant
- HTML, JSON, Node.js, JavaScript, Python
- I/O Docs, Swagger/OpenAPI 2.0
- Github, Gitlab

PROFESSIONAL EXPERIENCES

XE.com Inc. – Applications Developer September 2017 – December 2017

Member of a close-knit team of developers, labelled as the systems team. Completed numerous projects and tasks over the work term over a variety of platforms and languages.

- Created API clients for XECD in Node.js, automated testing using the Mocha and Chai frameworks. Created another client in Python, using the unittest library to automate testing
- Constructed part of the XE bot framework, taking the input JSON from the speech to text bot, making an API call, and returning a JSON object with the necessary information
- Migrated SQL queries from older servers running Ant scripts to instead work with AWS Jenkins
- Created developer friendly, interactive documentation using Node.js and JavaScript, building the project using both I/O Docs as well as Swagger/OpenAPI 2.0 to compare the two options
- Modified the XECD (Currency Data) API, tested changes by hosting it locally on REDIS. Filled it with live rates and update messages using AWS Cloudformation and SQS
- Performed data backfilling on flat exchange rates, acquiring the production keys from the live rates, and filling in wrong data by blending the raw rates from the S3 bucket
- Handled version control in both Github and Gitlab, familiar with both command line and the web UI

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

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

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