He Nan (Tony) Li

3A Computer Science, Digital Hardware Option

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Qualifications

Proficient in C/C++, Java, C#, HTML/CSS, SQL, Objective-C and JavaScript.

Working knowledge in J2EE, Tomcat, Hibernate, ASP.NET, Entity Framework, Service Bus, SignalR, SQL Server, NodeJS, Angular, React, Cordova Ionic, algorithm design and network security.

Extensive experience with git, agile SDLC and SOLID programming principles.

Education

University of Waterloo

Candidate for Bachelor of Computer Science, Honours, Digital Hardware Option

Excellent Academic Standing: 3.9 GPA

Awards: President's Scholarship of Distinction, Term Dean's Honor's List, Canadian Computing Competition Top 25% in Senior Division

Experience

BDO Canada LLP *Software Engineer Intern*   May 2017 – Aug 2017

- Designed and implemented **performance-critical** software with **PaaS architecture** using **ASP.NET**, **C#**, **Azure**, and **Angular**. Utilized 130 SQL databases, **Azure Service Bus** and **Azure Key Vault** to ensure always-on encryption and data independence.
- Improved search efficiency through **memory caching** and **indexing**. Simplified search expression and optimized **LINQ expression**.
- Performed **penetration testing** with SqlMap and ZAP with reference to OWASP Top 10 Projects. Prepared a comprehensive report outlining security vulnerabilities and recommended solutions. Implemented **CSRF attack prevention** with anti-forgery token.
- Prepared extensive design documents detailing **system architecture**, **database schema** and **sequence diagram** to translate business requirements into technical solutions.

Bluejay Network Inc. *Software Engineer Intern*   Aug 2016 – Dec 2016

- Developed a cross-platform mobile application using **Cordova**, **Ionic** and **AngularJS**.
- Implemented a **backward-compatible** RESTful API using **Java EE**, **Hibernate**, **Spring MVC**, **Maven** and **MySQL**. Investigated server errors and provided hotfixes to the production server.
- Planned, prepared and executed agile sprints and scrums with colleagues to push the project releases within scheduled timeframe.

The University of British Columbia *Software Engineer Intern*   May 2014

- Collaborated and brainstormed on an iOS application with an immunology professor for a community project. Drafted **UI mock-ups** and **navigation transitions**.
- Designed **user interface**, **logics** and **models**. Implemented with Objective-C in Xcode. Applied **multithreading** to provide smoother user experience.

Projects

KaleidoScope *Content Sharing Application (github.com/AlephTeam/KaleidoScope)*   Aug 2017 – Present

- A cross-platform application (Android and web) designed to simplify content sharing between users.
- Minimizes steps required to share links, files, and chats. Provide consistent UI and UX across different platforms.
- Built with **NodeJS**, **Socket.IO**, **MySQL** and **Java**; hosted on **Azure**.

ExpressCPP *Cross-platform Server framework built with C/C++ (github.com/AlephTeam/ExpressCPP)*   July 2017 – Aug 2017

- Features include the ability to create **controllers**, **middleware** and custom **error handlers** on a specified port.
- Able to construct and parse complete socket messages using HTTP protocol and to be sent and received over TCP/IP connections.
- Built with **Winsock2** library for Windows and **socket library** for Unix to achieve cross-platform and consistent interface.
- Implemented simple view engine with Razor-like syntax to allow html rendering.

MarkX *A Markup Language Compiler (tonyli.me/markx)*   May 2017 – July 2017

- Implemented in **modularized** and **object-oriented** architecture with **MEAN stack** to provide **extensible** and **maintainable** solution.
- Constructed parsing rules and context-free grammar.
- Applied **LR1 parsing** to achieve **linear time efficiency**.
- Took the initiative to organize a team of software developers to implement MarkX.

Personal Blog *(tonyli.me)*   Jan 2016 – Present

- Built with HTML/CSS, Angular and material design; hosted on Github.
- Posted lecture notes and blogs in Markdown. Compiled markdown and math expressions to html and displayed in Angular module.