

DEVELOPER RESUME – YU LI

PERSONAL INFORMATION

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I'm studying at the University of Waterloo and will graduate in August 2019. In the past, I have been a frontend and backend web developer, a desktop application developer, and a Computer Science research assistant.

EDUCATION

Bachelor degree in Computer Science, Combinatorics & Optimization, Computational Mathematics majors at the University of Waterloo by August 2019

EXPERIENCES

Current | Independent App Developer

Making macOS apps with Objective-C++.

2017 - 2018 | Research Assistant ([University of Waterloo](#))

Worked as a Computer Science research assistant in the symbolic computation field. We discovered an algorithm that could improve large integer arithmetic computation.

2015 - 2017 | Instructional Support Assistant ([University of Waterloo](#))

Developed *Seashell*, a web application used by the university for teaching the C language. I was also responsible for weekly tutorials, office hours, meeting coordination, assignments and exams marking.

2014 - 2015 | Web Developer ([Evertz Microsystems](#))

Developed a software platform used by the company's R&D and sales departments for project management and communication.

SKILLS

Software Development

- C, C++, Java for desktop app development
- Objective-C, Objective-C++, Swift for macOS, iOS app development
- Python, Haskell, Bash for app and web server development, testing, or writing cron jobs
- Qt, Qt-Quick frameworks for cross-platform app development
- Cocoa framework for macOS app development

Web Development

- HTML, CSS, JavaScript and TypeScript for interactive web contents
- Apache server, SSL certificate configuration
- Experience with standard encryption, data transfer and authentication technologies such as HTTP, OAuth2 protocol
- NodeJS, Webpack, Bootstrap, Less, Sass, AngularJS, ReactJS for building frontend
- Python, Django, Oscar for building backend

Database

- Designing and optimizing relational database structures and models
- Writing SQL queries to inquire and modify SQLite and MySQL databases

- Designing and implementing software with database integration

Software Testing & Quality Assurance

- Automated software white/black-box testing
- Web frontend testing with Jasmine, Karma frameworks
- Software backend testing with Hspec, QuickCheck libraries

Teamwork

- Good verbal and written communication skills
- Git, Docker command-line tools and their workflows
- Software design, modelling, planning and abstraction
- Slack and Github for team communication
- Project leadership and team management experience
- Time management, project planning and evaluation

Computer Science

- Operating System design and implementation involving concurrency, synchronization, processes, threads, scheduling, memory management and file systems
- Programming language design and implementation such as Regular Expression, Context-free Grammar parsing, interpreting and compiling
- Algorithm design and complexity analysis
- Graph and network flow theory, analytical combinatorics and mathematical optimization

INDEPENDENT PROJECTS

Pointer is a web browser app on macOS. I designed it to make use of users' screen space as efficiently as possible. You can install it on macOS 10.13+ through the App Store link: itunes.apple.com/ca/app/pointer/id1439965103, or by searching *Pointer* followed by my name in the macOS App Store.

DBModel is a declarative database library for the Haskell language. It can be found here: github.com/ylilarry/db-model. The goal was to provide Haskell a high-level database library that manages relational tables automatically.

Doujiang is a video format conversion software designed for archiving purposes. Its frontend was made with Qt-Quick and C++, and the backend was made with Haskell. A demo can be found here: github.com/ylilarry/doujiang.

TEAM PROJECTS

Seashell is an online text editor, compiler and debugger for the C language. I developed its frontend and backend. It is used by all first-year computer science students at the University of Waterloo. The project can be found here: github.com/cs136/seashell. It was made with a mixture of AngularJS, ReactJS, TypeScript, and Racket.

MMC is my Computer Science research project for symbolic computation. It is included in the standard Linux distribution as a part of the *fflas-ffpack* package for large integer arithmetic computation. The original project can be found here: github.com/ylilarry/mmc.