

# ZHONGHAO LU

(+1)780-707-5818 ◇ zlu@ualberta.ca ◇ Edmonton, Canada (Open to Relocate)

## EDUCATION

University of Alberta, Canada

September 2016 - June 2020

BSc with Specialization in Computing Science

GPA: 3.5

Faculty of Science Undergraduate Scholarship (2018)

## TECHNICAL SKILLS

Programming Languages

Java, JavaScript, Python, C#, C, HTML, CSS

Web Development

Express, React, Node.js, GraphQL, Django, Flask, Heroku

Database Management

MongoDB, PostgreSQL, SQLite, MySQL

Other Tools

Bash, Git & GitHub, ROS, PyTorch, OpenGL, OpenCV

## WORK EXPERIENCE

Hole School of Construction Engineering, Edmonton

January 2019 - August 2019

Software Developer Intern

- On-site internship with Agile development processes, initiated Object-Oriented Design concepts and MVC patterns in designing projects
- Used .NET framework and C# to develop Windows applications for solving civil engineering problems
- Utilized Revit API, LINQ and multi-threaded programming to implement process improvement initiatives and solutions

## PROJECTS

### SpongeBook (Web App)

- Conceptualized and developed a distributed web-based social networking application using **Django Rest Framework** and MVT pattern
- Implemented **RESTful APIs** with authentication and permission functionalities, applied **Unit Tests** on endpoints thoroughly
- Designed web interfaces with JavaScript libraries **React**, **AntDesign**, and managed application state with **Redux**
- Utilized **Travis CI** to build and test pull requests automatically, automated deployment phase on **Heroku**, served the Front-End and the Back-End from the same host by using WhiteNoise middleware

### AutoSurveys (Web App)

- Built Back-End server with **Express.js**, utilized **Passport.js** middleware to handle Google **OAuth** authentication flow
- Accomplished in setting up **MongoDB Atlas** for storing clusters in the cloud, modelled application data using **Mongoose.js**
- Achieved surveys delivery features using **SendGrid**, and set up webhooks for getting feedback
- Employed the use of **Redux** and **Redux Form** for managing form states, built concise user interfaces with **Materialize**

### FrameX (Windows App)

- Utilized **C#** and **.NET** to achieve extra BIM features on Autodesk Revit
- Optimized sheathing feature by applying Dynamic Programming, reduced material usage by **15%**
- Used **Json.NET** for serialization and de-serialization which reduced code by **30%** and improved maintainability progressively
- Applied user interface design adaption for different devices, setup app licensing using Intellilock