

Xiaohua Cai

xcai3@ualberta.ca 7806046231 [Linkedin](#) [Portfolio](#) [Github](#)

SKILLS

Languages & Frameworks

HTML/CSS/SASS, JavaScript, Python, Java, Node.js, Express, React, jQuery, Bootstrap, Visual Basic 6.0

Systems & Database: MongoDB, PostgreSQL, MySQL, Git/Github, Heroku, Netlify **Software Architecture:** RESTful API, MVC

EDUCATION

Front-End Web Developer NanoDegree from Udacity

December 2020- March 2021

Master of Science in Food Science & Bioresource technology

September 2017- December 2018

University of Alberta

GPA3.7/4.0

Bachelor of Engineering in Food Quality & Safety

September 2013- June 2017

Fujian Agriculture and Forestry University, China

core courses: GPA3.7/4.0

- Studied at University of Albert as a visiting student from 2016 to 2017

Certificate: China *College Computer Test* Level one (**Information Technology**) & Level Two (**Visual Basic 6.0**)

Award:

- Awarded by China Scholarship Council (CSC) to support students with exceptional academic achievements to study abroad for one academic year. (value: \$17,000 CAD). 2016
- Awarded with third-class excellent academic scholarship. 2015-2016
- Awarded with China National Encouragement Scholarship. Second-class excellent academic scholarship. 2014-2015
- First-class excellent academic scholarship. Received a second-prize of debate competition. Valued as merit student. 2013-2014

Publication: <https://daneshyari.com/article/preview/8881478.pdf>

WORK EXPERIENCE

Research and Development Scientist

January 2019- Present

SBI BioEnergy Inc.

- Calculated mass balance for 10+ lab-scale reactors through Visual Basic Programming
- Applied software applications to automatically control various chemical reaction process.
- Analyzed data, tabulate and present data to the process and catalyst development team on regular basis
- Investigated and troubleshooted Hydrogen reaction processes.
- Developed new analytical methods as required to analyze and access properties of catalyst and biofuel product samples
- Conducted physical property assessment experiments of solid catalysts and biofuel product using various instruments.

CODING PROJECTS

Full Stack Chat App

April 2021

Use client-side and server-side WebSockets to create connections and broadcast messages

Front-end: React **Back-end:** Node.js, Express, Socket.io **Deployment:** Netlify, Heroku

[Live Page](#) [Repository](#)

Full Stack Library App

May 2021

An MVC pattern based application. Applied MongoDB, NoSQL. Used EJS view engine to render pages, it allows user to add, search, update information.

Front-end: CSS **Back-end:** Node.js, Express, MongoDB, Mongoose, EJS **Deployment:** Heroku

[Live Page](#) [Repository](#)

Loan Repayment Calculator Mobile App

July 2021

Technology: Java & Android Studio

[Repository](#)

Full Stack Feedback App

May 2021

Front-end: HTML, CSS **Back-end:** Python Flask, PostgreSQL, maitrap.io

[Demo](#) [Repository](#)

Travel APP

March 2021

A weather forecasting application. Data retrieved from three APIs: Pixabay API to display an image of the location entered, GeoNames API to retrieve coordinates, WeatherBit API to fetch weather data.

Front-end: HTML CSS **Back-end:** Node.js, Express

[Demo](#) [Repository](#)

User Management Systems

May 2021

Applied MongoDB to update and delete user information, used EJS view engine to render pages.

Front-end: CSS **Back-end:** Node.js, Express, MongoDB, Mongoose, EJS

[Repository](#)

Github Finder

April 2021

This application allows users search Github account profiles and Bios through retrieving data from the Github API.

Front-end: React functional components, Hooks & Context **Deployment:** Netlify

[Live Page](#) [Repository](#)

C.S. Course Completed	Relevancy	Grade
Fundamentals of Information Technology	Data Structure and Algorithm, Fundamental concepts in C.S. , Introduction to SQL, Database Systems, Intro to software engineering, hardware and operation system	80/100
Experiment for Information Technology Foundation		98/100
Visual Basic Programming	Visual Basic 6.0	78/100

Mathematics & Statistics Course Completed	Relevancy	Grade
Advanced Mathematics B1	Advanced calculus (Differentiation & integration) , Higher order derivatives and relative rates of change, properties of functions by derivative, finding limits using derivative, Higher-order differential equations	80/100
Advanced Mathematics B2	Differential calculus, integral calculus , Directional derivatives and gradient descent , vector, curves and surfaces	96/100
Probability Theory	Probability, probability distributions for discrete and continuous random variables, Multivariate Probability Distributions, Moment and Covariance Matrix, linear regression	86/100
Linear Algebra	vector spaces, matrix algebra, linear transformation equations, Gram-Schmidt process, QRfactorization of a matrix and least squares, change of basis, similarity and diagonalization, Orthogonal diagonalization, quadratic forms, Applications in a variety of fields, numerical methods	93/100
EDPY 500 Introduction to Data Analysis in Educational Research	Sampling distributions and the central limit theorem, hypothesis test	A

Online Computer Science Course Completed	Relevancy	Grade
Introduction to Python Programming	Python, data structure	pass
Managing Big Data with MySQL (through Coursera)	MySQL Relational Databases	pass
Front End Web Developer Nanodegree (Udacity)	HTML, CSS, JavaScript	pass
Front-End Web UI Frameworks and Tools: Bootstrap 4	HTML, CSS, JavaScript, Bootstrap 4	pass

Research Project Experience

Graduate Capstone Project

May 2018- November 2018

University of Alberta

- Synthesized and characterized canola oil amphiphilic block copolymers as nano drug carrier.
- Analyzed data using Microsoft Excel & plotted images using Adobe Illustrator software & graphed data using GraphPad Prism7
- Delivered professional presentations and submitted a fifty-page written scientific research paper

Undergraduate Capstone Project

January 2016- July 2016

Fujian Agriculture and Forestry University

- Conducted a scientific research. An author of a published scientific research paper.

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