

# SYED WAQAR AHMED

Bachelor of Computer Science Student (BCS)

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## PROGRAMMING LANGUAGES AND TOOLS

*\*actively learning*

- Languages: JavaScript, TypeScript, Java, C, HTML, CSS, x86 Assembly, C++, REACT with Redux\*, C#
- Frameworks: Node.js, Mongoose, Express, Mocha, Selenium, TestNG.
- Tools: IntelliJ IDEA, VSCode, MySQL Workbench, Postman, NPM, Studio 3T, GitHub, Bootstrap, Jira, Confluence, Redmine, Zephyr Scale, MongoDB Atlas, AWS S3.
- Database-related: SQL, MySQL Workbench, MongoDB, MongoDB Atlas, Studio 3T

## TECHNICAL PROJECTS

*\*in development*

**Outdoorly** – Node.js, JavaScript, MongoDB, Express, REACT with Redux

May 2023\*

- Developing a web application using MERN stack with RESTful API serving users to search for, get information on, rate and review national parks according to their preferences for outdoor activities.
- App has estimated deployment date of July 25<sup>th</sup>.

**Course Querying software** – TypeScript, Node.js, Express, JavaScript, HTML, CSS

April 2023

- Developed a web application that allows students to query historical UBC course and building data. Source data include raw data published by UBC and data scraped from the UBC website.
- Used Agile methodologies (scrum), TDD, SOLID design principles and object-oriented design patterns.
- Used tree-walking algorithm to implement a custom EBNF query language. Built building database by using BFS to traverse DOM tree to scrape data from UBC website.
- Server-side development in TypeScript using Node and Express. Client-side in JS, HTML, CSS.
- TDD using Mocha and Chai test frameworks.

**Inventory Management software** – JavaScript, SQL, Node.js

Aug 2022

- Developed a web app used to manage inventories at a warehouse.
- Created ER diagrams, normalized the database to 3NF and BCNF, designed the relations and schema and used MySQL Workbench to create and manage SQL database
- Wrote extensive SQL scripts to create and query the database
- Contributed to backend using Node.js

**Point-Of-Sale software for a Cafe** – Java, OOP, JSON, TDD

Mar 2021

- Designed & developed a desktop app that can be used to order, record & manage menu and sales for a café.
- Used UML to create the project skeleton & applied OOP principles to design the modules and classes
- Designed the GUI using Java Swing and implemented data persistence to store/retrieve using JSON parsers
- Wrote extensive JUnit tests to ensure complete coverage during TDD

**Lossy Image Compression problem** – C++, Algorithms and Data Structures

Dec 2021

- Implemented and optimized an algorithm for lossy image compression using a K-d tree.

**Multithreaded Synchronization Problem** – C, Mutex, Semaphore, X86 Assembly

Mar 2022

- Used semaphores and mutexes to solve synchronization problems such as cigarette smokers' problem
- Implemented bubble sort in x86 Assembly. Optimized programs for X86 assembly-based pipelined processors

## WORK EXPERIENCE

**Technical Business Analyst – Digital Documents**, Acturis-Canada, Victoria, BC

May 2023 – Present

- Transforming data generated by Acturis software to generate pdf documents using XSLT (an XML-parsing language).
- Writing SQL scripts to query build environments.
- Building specifications for new documents and updates.
- Manual testing of documents.

- Managing internal and external tickets for document builds/updates using JIRA, Redmine and FastTrack.

**IB Diploma Instructor**, TNS Beaconhouse, Lahore, Pakistan

Jan 2017 – Oct 2020

- Taught International Baccalaureate Diploma subjects of Biology and Environmental Systems and Societies. Mentored student participation in STEM national science competitions. Fostered student interest in Environmental Sciences increasing class enrollment from 3 to 50+ students over 4 years.

**Research Assistant**, LUMS - School of Science and Engineering, Lahore, Pakistan

Jan – Aug 2016

- Investigated role of microRNAs in wheat genome evolution.
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## EDUCATION

**Bachelors in Computer Science (second-degree program)** - *Average: 85.4%*

\*Expected April 2024

University of British Columbia, Canada.

**M.Sc. (Evolution, Ecology & Organismal Biology)** - *cGPA: 3.86/4.0*

Sep 2015

University of California, Riverside, USA.

- *Awards: Fulbright Scholarship*