

# SYED WAQAR AHMED

Bachelor of Computer Science (BCS) - Immigration Status: Canadian Permanent Resident

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## PROGRAMMING LANGUAGES AND TOOLS

*\* Actively learning*

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

[Program analysis tool](#) – Java, Spring Boot, REACT, Gradle

April 2024

- Built a web-based tool for visualizing sophisticated Control Flow Graphs which also display information from static and dynamic analysis with the goal to enhance code quality and performance.

[Domain Specific Language for farmers](#) – Node.js, TypeScript, ANTLR

February 2024

- Developed a Domain Specific Language that allows farmers to plan farm layouts, planting of crops, crop rotation etc.

[Outdoorly](#) – Node.js, JavaScript, MongoDB, Express, REACT with Redux, MongoDB Atlas, AWS S3, OAuth, JWT

August 2023

- Developed a full stack web application using MERN stack with RESTful API allowing users to search for, rate and review national parks according to their interests.

[Course Querying software](#) – TypeScript, Node.js, Express, JavaScript, HTML, CSS, TDD

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

[Point-Of-Sale software for a Cafe](#) – Java, OOP, JSON, JUnit

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
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## WORK EXPERIENCE

**QA Analyst - Test Engineer (co-op)**, BC Liquor Distribution Board, Vancouver, BC

Sep 2023 – April 2024

- Engaged in the development and execution of software test automation using Selenium, Sikuli, and Specflow within the .NET environment, contributing to the maintenance and enhancement of the BCLDB product suite.

Increased coverage of WPM test suite by 22%.

- Applied best practices to refine automation code, improving maintainability and scalability, which streamlined testing processes.
- Troubleshoot and resolved coding issues, including an overhaul of the date selection logic in test scripts, bolstering the automated testing framework's reliability.
- Identified and fixed over 40 critical bugs in automation code, improving test suite stability and effectiveness.
- Authored and updated documentation on test writing and test execution procedures, supporting team knowledge sharing and onboarding processes.
- Actively participated in daily Agile Scrum meetings, contributing to continuous improvement and sprint planning within 2-week cycles.
- Provided technical support to peers, assisting with code integration, bug resolution, and complex problem-solving to enhance team efficiency.
- Received training to use Eggplant Functional and Eggplant Digital Automation Intelligence (DAI) to produce model-based tests for desktop and web applications.

**Technical Business Analyst – Digital Documents (co-op)**, Acturis-Canada, Victoria, BC May 2023 – August 2023

- SQL scripting to design and configure insurance products on the Acturis SaaS platform.
- Authored specifications for digital document products.
- Performed rigorous manual testing ensuring quality standards.
- Proactively resolved customer tickets requesting document updates or bug resolution using JIRA, Redmine, and FastTrack.
- Spearheaded an effort to keep all digital documents updated by taking initiative to cascade updates made to one document to all related documents, ensuring comprehensive and up-to-date records.

**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

- Worked on a 6-month project investigating the role of microRNA roles in wheat genome evolution. Used computational biology tools to develop protocols, methodologies, and data pipelines for the analysis of high throughput genomic data.

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## EDUCATION

**Bachelors in Computer Science (second-degree program)** - Average: 85.4% \*Expected June 2024  
University of British Columbia, Canada.

**M.S. in Evolution, Ecology & Organismal Biology** - cGPA: 3.86/4.0 Sep 2015  
University of California, USA.

- Awards: Fulbright Scholarship, Biology Graduate Student Award