

September 2, 2024

Ashlin Richardson

Band 3 Senior Data Scientist and Manager of Business Intelligence

BC Wildfire Service, Predictive Services Unit

Victoria, British Columbia

Dear Mr. Richardson:

I am writing to express my strong interest in the Data Scientist Co-op at BC Wildfire Service. I am a software engineering student at the University of Victoria in British Columbia. I am eager to learn and grow in the field of computer and software engineering, and I believe that this role will help me gain valuable work experience related to my interests and help me acquire a practical understanding in a real-world setting.

Throughout my academic endeavours, I have had the chance to explore and learn about many important concepts in software engineering, such as object-oriented programming, software architecture design, agile methodologies and software testing. My academic and project experiences align well with the requirements of this position:

- **Full-Stack Development:** I've experience developing full-stack applications, working primarily with TypeScript, React and Python. During some projects, I had the chance to design the system, develop schemas for both relational and non-relational databases such as PostgreSQL and MongoDB.
- **Diverse Project Portfolio:** I've completed over 13 software development projects, including an iOS weather application in Swift, a 3D Rubik's Cube simulation using C++, and several web applications using React, JavaScript, and TypeScript.
- **Testing and Automation:** Throughout my projects, I have utilized build automation tools like Maven and Gradle, along with web automation tools such as Selenium, Puppeteer, and WebDriverIO. I have experience working with unit testing with frameworks such as JUnit, pytest, Mocha and have experience with API testing using Postman.
- **Collaboration and Development:** I have been an active member of the Engineering Students Society and VikeLabs, where I've mentored and worked with fellow engineering students, participated in hackathons and coding workshops.

I am currently available for a **4-month** work term and would be open to the possibility of participating in more than one consecutive terms. Thank you for considering my application. I look forward to the possibility of speaking with you further about this role.

Most Sincerely,



Arfaz Hossain (He/Him)

Software Engineering Student,

University of Victoria

Arfaz Hossain

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EDUCATION

University of Victoria

Bachelor of Engineering in Software Engineering

Victoria, BC

Sept. 2021 - Present

TECHNICAL SKILLS

Languages: Java, Python, TypeScript, JavaScript, Objective-C (Swift), C++, HTML/CSS, R

Frameworks and Libraries: Node, Next.js, React, Express, Material, Shadcn, Tailwind CSS

Databases: MySQL, PostgreSQL, SQLite, MongoDB, Redis, DynamoDB, CloudSQL

Developer Tools: Visual Studio, IntelliJ, JUnit, Eclipse, Maven, Gradle, Git, Docker

TECHNICAL PROJECTS

Course Planner | *Next.js, React, TypeScript, PostgreSQL, Tailwind*

Feb 2024 - Present

[www.github.com/arfazhxss/course-planner](https://github.com/arfazhxss/course-planner)

Victoria, BC

- Developed a course planning tool using Next.js to help students plan courses and track degree progress
- Integrated PostgreSQL for database management of course data and user information
- Implemented drag-and-drop functionality in React with state functions to enhance user interactivity
- Designed the User Experience using TailwindCSS to create a seamless and intuitive user experience

Automated Application System | *Bash, Python, LaTeX*

Dec 2023 - Present

[www.github.com/arfazhxss/app-sys](https://github.com/arfazhxss/app-sys)

Victoria, BC

- Automated and streamlined entire job application process optimizing workflow and data handling
- Utilized multithreading for simultaneous data extraction and processing tasks, reducing runtime by 60%
- Built command-line tools for data input, and batch file processing, reducing manual efforts by 90%
- Increased consistency by 70% by implementing proper data cleanup and extraction

Jabref - Open Source Contributions | *Java, JUnit*

Dec 2023 - May 2024

[www.github.com/arfazhxss/jabref](https://github.com/arfazhxss/jabref)

Victoria, BC

- Developed 100+ unit tests to ensure end-to-end correctness of file lookup in JabRef's database
- Implemented 20+ caching tests to optimize JabRef's performance and memory management
- Implemented 30+ integration tests to verify correct interactions between multiple modules and classes
- Engineered end-to-end functional tests validating bibliography management workflows

Ground Support System | *React, TypeScript, MongoDB, Figma*

Jul 2023 - Jan 2024

[www.github.com/UVicRocketry/Ground-Support](https://github.com/UVicRocketry/Ground-Support)

Victoria, BC

- Collaborated with 13 developers to create portable telemetry software for rocket performance analysis
- Developed front-end components using TypeScript and contributed to the final Figma designs
- Integrated live telemetry data from MongoDB database into MaterialUI tables for post-flight analysis
- Implemented data visualizations with MaterialUI tables and charts for engineering students

Rubik's Cube (3D Simulation) | *C++*

Feb 2023 - June 2023

[www.github.com/arfazhxss/rubiks-cube-cpp](https://github.com/arfazhxss/rubiks-cube-cpp)

Victoria, BC

- Developed a 3D simulation with OpenGL, integrating GLSL for visuals and math operations
- Created intuitive keyboard controls for cube rotations using keys like L, J, I, K
- Enhanced user interaction with dynamic zoom via keyboard shortcuts

EXPERIENCES

Software Team Lead

Feb 2024 - Present

VikeLabs

Victoria, BC

- Collaborated with 5+ team leads to organize workshops for 100+ CS and software engineering students
- Collaborating with executives from 3+ student clubs to co-host tech events, boosting attendance by 25%
- Fostering partnerships with other student organizations, expanding resource-sharing opportunities

Graphics Coordinator

Jan 2023 - Present

Engineering and Computer Science Students Society

Victoria, BC

- Created 40+ posters and social media campaigns for engineering events
- Volunteered at 20+ events, enhancing student engagement and participation
- Updated and maintained ECSS website and exam bank accessed by 600+ engineering students

Various Positions: Grocery Clerk, Cashier and Deli Clerk

Apr 2022 - Sept 2022

Save On Foods

Victoria, BC

- Oversaw store operations with a team of 10-12 employees which ensured smooth daily workflow
- Handled customer inquiries while collaborated with 3 departments through effective communication channels
- Maintained inventory accuracy, reducing stock shortages by 7% through detailed record-keeping and rotation

Customer Service Representative, Cashier

Sept 2021 - May 2022

Tim Hortons

Victoria, BC

- Served 150+ customers daily, ensuring friendly and efficient service
- Managed cash transactions with 100% accuracy while training new staff members
- Prepared and served coffee and food to company standards, ensuring consistent quality

Data Analyst Intern

Jan 2021 - Aug 2021

Moment Touch Properties Ltd.

Dhaka, Bangladesh

- Analyzed real estate market data using Excel which improved accuracy of property valuations by 7%
- Developed Python scripts to automate data scraping and bash scripts for cleaning and analysis
- Compiled and presented data reports through automated Excel macros processes

VOLUNTEERING EXPERIENCES

Mentor, Volunteer

January 2016 - March 2018

University of Victoria Students Society

Victoria, BC

- Mentored 5 first-year students, providing academic guidance and fostering a supportive community
- Volunteered 50+ hours to support and enhance the international student experience

Rescue Volunteer

Aug 2019 - May 2021

Bangladesh Animal Welfare Foundation, Obhoyaronno

Dhaka, Bangladesh

- Advocated for responsible pet ownership through community outreach, creating 15-20 monthly posters
- Collaborated with teams of 5-7, including volunteers and veterinarians, rescuing 10-15 street animals
- Built and maintained strong relationships with local businesses to support animal welfare initiatives

Magazine and Event Executive

June 2016 - May 2019

Remians Language Club

Dhaka, Bangladesh

- Led a team of 150+ members in creating and distributing annual magazines, enhancing club visibility
- Secured sponsorships from 10+ local businesses, raising funds to support club events and activities
- Utilized Adobe Creative Suite to design educational materials for community engagement

Debater, Graphics Coordinator

January 2016 - March 2018

Remians Debating Society

Dhaka, Bangladesh

- Led a team of 5 to organize inter-school debate tournaments, attracting 100+ participants each event
- Collaborated with a team to organize over 15 debate events, ensuring smooth logistics

REFERENCES

Le Hung Nguyen

*Ph.D. Candidate, Department of Electrical and
Computer Engineering, University of Victoria*

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(236) 990-2709

Mohammad Ali Akber

*Software Development Engineer,
Amazon Payment Platforms*

mail2aliakber@gmail.com

(250) 813-3070

CERTIFICATIONS, HONORS AND AWARDS

- **Recipient of University of Victorias International Entrance Scholarship** 2021 - 2022
- **International English Language Testing System (IELTS), Grade: 8.0/9.0** 2020

UNOFFICIAL TRANSCRIPT OF STUDIES AT THE UNIVERSITY OF VICTORIA

FOR Arfaz Hossain (V00984826) AS OF 28 Aug 2024

If you require additional information please consult the University of Victoria calendar
by copying and pasting the following link to your browser: <http://uvic.ca/calendar/>

Course History at the University of Victoria

SESSION	COURSE	DESCRIPTION	UNIT VALUE	GRADE	GRADE POINT	AWARDED UNITS	NOTE	COMPARATIVE MEAN	SIZE
ACADEMIC RECORD FOR UNDERGRADUATE STUDIES EXCLUDING LAW PROGRAMS									
WINTER 2021-2022									
First Term: Sep - Dec 2021									
ENGINEERING B.ENG. (CO-OP ENGINEERING)									
	ENGR 110	DESIGN AND COMMUNICATION I	2.5	76% B	5	2.5		79%	166
	ENGR 130	INTRODUCTION TO PROFESSIONAL PRACTICE	0.5	79% B+	6	0.5		87%	204
	MATH 100	CALCULUS I	1.5	72% B-	4	1.5		72%	209
	MATH 110	MATRIX ALGEBRA FOR ENGINEERS	1.5	75% B	5	1.5		69%	135
Second Term: Jan - Apr 2022									
ENGINEERING B.ENG. (CO-OP ENGINEERING)									
	CSC 111	FUNDAMENTALS OF PROGRAMMING WITH ENGINEERING APPLICATIONS	1.5	78% B+	6	1.5		61%	117
	MATH 101	CALCULUS II	1.5	66% C+	3	1.5		73%	180
	MATH 122	LOGIC AND FOUNDATIONS	1.5	81% A-	7	1.5		73%	75
	PHYS 110	INTRODUCTORY PHYSICS I	1.5	75% B	5	1.5		57%	129
SESSIONAL GPA = 5.04 (05MAY2022)									
CREDIT IN 12.0 UNITS IN GOOD ACADEMIC STANDING (05MAY2022)									
SUMMER 2022									
Summer Session: May - Aug 2022									
ENGINEERING B.ENG. (CO-OP ENGINEERING)									
	CSC 115	FUNDAMENTALS OF PROGRAMMING II	1.5	76% B	5	1.5		74%	91
SESSIONAL GPA = 5.00 (17AUG2022)									
CREDIT IN 1.5 UNITS IN GOOD ACADEMIC STANDING (22AUG2022)									
WINTER 2022-2023									
First Term: Sep - Dec 2022									
ENGINEERING B.S.ENG. SOFTWARE ENGINEERING (CO-OP ENGINEERING)									
	CSC 225	ALGORITHMS AND DATA STRUCTURES I	1.5	53% D	1	1.5		73%	196
	ECON 180	INTRODUCTION TO ECONOMICS AND FINANCIAL PROJECT EVALUATION	1.5	90% A+	9	1.5		81%	150
	SENG 265	SOFTWARE DEVELOPMENT METHODS	1.5	70% B-	4	1.5		70%	196

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Second Term: Jan - Apr 2023									
ENGINEERING B.S.ENG. SOFTWARE ENGINEERING (CO-OP ENGINEERING)									
	CSC 230	INTRODUCTION TO COMPUTER ARCHITECTURE	1.5	63% C	2	1.5		76%	127
	ENGR 120	DESIGN AND COMMUNICATION II	2.5	88% A	8	2.5		87%	173
	ENGR 141	ENGINEERING MECHANICS	1.5	65% C+	3	1.5		71%	103
	STAT 260	INTRODUCTION TO PROBABILITY AND STATISTICS I	1.5	65% C+	3	1.5		79%	138
SESSIONAL GPA = 4.61 (08MAY2023)									
CREDIT IN 11.5 UNITS									
IN GOOD ACADEMIC STANDING (08MAY2023)									
SUMMER 2023									
Summer Session: May - Aug 2023									
ENGINEERING B.S.ENG. SOFTWARE ENGINEERING (CO-OP ENGINEERING)									
	CSC 226	ALGORITHMS AND DATA STRUCTURES II	1.5	65% C+	3	1.5		82%	107
	PHIL 201	CRITICAL THINKING	1.5	70% B-	4	1.5		73%	298
	SENG 275	SOFTWARE TESTING	1.5	74% B	5	1.5		81%	45
	SENG 310	HUMAN COMPUTER INTERACTION	1.5	92% A+	9	1.5		83%	103
SESSIONAL GPA = 5.25 (18AUG2023)									
CREDIT IN 6.0 UNITS									
IN GOOD ACADEMIC STANDING (21AUG2023)									
WINTER 2023-2024									
First Term: Sep - Dec 2023									
ENGINEERING B.S.ENG. SOFTWARE ENGINEERING (CO-OP ENGINEERING)									
	ASTR 101	EXPLORING THE NIGHT SKY	1.5	68% C+	3	1.5		67%	23
	CHEM 101	FUNDAMENTALS OF CHEMISTRY FROM ATOMS TO MATERIALS	1.5	49% F	0	0.0		70%	315
	CSC 370	DATABASE SYSTEMS	1.5	57% D	1	1.5		66%	130
	ECE 260	CONTINUOUS-TIME SIGNALS AND SYSTEMS	1.5	20% F	0	0.0		67%	96

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Second Term: Jan - Apr 2024									
ENGINEERING B.S.ENG. SOFTWARE ENGINEERING (CO-OP ENGINEERING)									
	CSC 305	INTRODUCTION TO COMPUTER GRAPHICS	1.5	90% A+	9	1.5		79%	108
	CSC 320	FOUNDATIONS OF COMPUTER SCIENCE	1.5	33% N	0	0.0		73%	166
	ECE 363	COMMUNICATION NETWORKS	1.5	73% B	5	1.5		82%	99
	SENG 371	SOFTWARE EVOLUTION	1.5	84% A-	7	1.5		85%	80
SESSIONAL GPA = 3.13 (06MAY2024)									
CREDIT IN 7.5 UNITS									
IN GOOD ACADEMIC STANDING (06MAY2024)									
SUMMER 2024									
Summer Session: May - Aug 2024									
ENGINEERING B.S.ENG. SOFTWARE ENGINEERING (CO-OP ENGINEERING)									
	CHEM 101	FUNDAMENTALS OF CHEMISTRY FROM ATOMS TO MATERIALS	1.5	72% B-	4	1.5		66%	63
	ECE 260	CONTINUOUS-TIME SIGNALS AND SYSTEMS	1.5	68% C+	3	1.5		69%	74
SESSIONAL GPA = 3.50 (19AUG2024)									
CREDIT IN 3.0 UNITS									
IN GOOD ACADEMIC STANDING (19AUG2024)									
CUMULATIVE GPA: 4.36									
WINTER 2024-2025									
First Term: Sep - Dec 2024									
ENGINEERING B.S.ENG. SOFTWARE ENGINEERING (CO-OP ENGINEERING)									
	CSC 320	FOUNDATIONS OF COMPUTER SCIENCE	1.5	REGISTERED					
	ECE 360	CONTROL THEORY AND SYSTEMS I	1.5	REGISTERED					
	EPHE 155	INTRODUCTION TO NUTRITION: CONCEPTS AND CONTROVERSIES	1.5	REGISTERED					
	SENG 350	SOFTWARE ARCHITECTURE AND DESIGN	1.5	REGISTERED					
Second Term: Jan - Apr 2025									
ENGINEERING B.S.ENG. SOFTWARE ENGINEERING (CO-OP ENGINEERING)									
	BIOC 102	BIOCHEMISTRY AND HUMAN HEALTH	1.5	REGISTERED					
	CSC 360	OPERATING SYSTEMS	1.5	REGISTERED					
	ECE 310	DIGITAL SIGNAL PROCESSING I	1.5	REGISTERED					
	SENG 321	REQUIREMENTS ENGINEERING	1.5	REGISTERED					

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