

Rahulpreet Singh Bal  
Edmonton, AB  
(825) 461-3888  
[rahulpre@ualberta.ca](mailto:rahulpre@ualberta.ca)  
[Portfolio Website](#)

## **Professional Summary**

Motivated university student with 4+ years of experience in programming and web development. Adept in developing interactive and reusable components, with hands-on experience in full-stack development. Proven ability to contribute to all stages of the software development life cycle. A creative problem-solver, driven to apply technical expertise to real-world challenges, and eager to leverage knowledge to enhance customer experiences and improve operational efficiency.

## **Skills**

**Programming:** Python, JavaScript, HTML5, CSS3, SQL

**Frameworks/Libraries/Tools:** Django, React, Node.js, REST APIs, AJAX, Git

**Cloud Technologies:** Azure Functions, App Services, SQL Databases, Redis, API Management, Key Vaults

**Database:** SQL Server, PostgreSQL, MySQL

**Methodologies:** Agile Development, Design Patterns, Asynchronous Request Handling

**Others:** ESRI ArcGIS, Aveva OSI PI, Data Visualization (Matplotlib, Seaborn, Tableau)

**Soft Skills:** Strong problem-solving skills, attention to detail, excellent communication, teamwork, and time management, ability to learn with minimal supervision

## **Work Experience**

**Telematics Analyst Co-op**

**North American Construction Group**

Sep 2023 - August 2024

September 2024 - Present(Part-time)

- Developed a full-stack web application deployed as an Azure App Service using CI/CD pipelines in Azure DevOps with a JS frontend and Python(Django) backend.
- Scaled thousands of asynchronous websocket connections consuming PI Web API data and delivering it to ArcGIS Geoevent server over REST endpoints, saving \$80,000 annually
- Built a full-stack web application using React, Azure Static Web Apps, Azure SQL, and Azure Front Door to deliver equipment health KPIs and suggestions through machine learning.
- Automated file downloads from SFTP to Azure Storage via Azure Function Apps.
- Created dashboards using ArcGIS Experience Builder and managed feature layers to provide real-time analytics.

## **Education**

**Bachelor of Science - Specialization in Computing Science**

## University of Alberta

**Expected Graduation:** April 2025

**Current GPA:** 3.5/4.0 – Dean's Honor Roll[2022-2023, 2023-2024]

**Relevant Courses:** Web Applications & Architecture (CMPUT 404), Software Engineering (CMPUT 301), File & Database Management (CMPUT 291), Natural Language Processing (CMPUT 461), Other AI & Machine Learning Courses like Generative Visual Recognition, Reinforcement learning and Machine Learning

## Projects

### 1. Distributed Social Networking Project [[Source](#)]

- Collaborated with a team of six to develop a distributed social networking platform.
- Built a React front-end and Django back-end, deploying the application on Heroku.
- Implemented features like authentication, pagination, and API integrations for cross-team connectivity.
- Enhanced the user experience with real-time interactions and ensured platform compatibility.
- Gained practical experience in full-stack development, deployment, and agile team collaboration as well as in-depth knowledge of developing in Django for python

### 2. Student performance prediction [[Source](#)]

- Created a data science project that predicts a student's performance on a Math test given certain inputs.
- Used modular coding for structure and made use of logging and CustomExceptions.
- Did EDI using jupyter notebooks, data ingestion, transformation, model training, and hyperparameter tuning using Numpy, pandas sklearn and OpenGridCV
- Matplotlib and seaborn for visualization and HTML/CSS/Javascript for front-end
- Python flask for HTTP server and deployed on AWS using CI/CD pipeline.

### 3. Tableau Project HR Analytics [[Source](#)]

- Did data exploration, cleaning, and analysis to create a dynamic Tableau dashboard.
- Created custom charts like donut charts and a composite bar and circle chart as well as custom fields and parameters.
- This would allow the company to identify subtle factors leading to high attrition rates and improve employee retention and engagement.

## Certifications

- Data Visualization Virtual Experience Program - TATA [[Credential](#)]
- Data Analysis and Technical Consulting Virtual Experience Program – SAP [[Credential](#)]
- Data Analysis with Python – FreeCodeCamp [[Credential](#)]
- Data Science and Machine Learning Bootcamp – Udemy [[Credential](#)]
- Pandas – Kaggle [[Credential](#)], Data Visualization - Kaggle [[Credential](#)]