

# Rahulpreet Singh Bal

☎ +1 (825) 461-3888 | ✉ rahulpre@ualberta.ca | [in/rahulpreet7](#) | 🌐 [My Website](#) | [🔔 Rahulpreet7](#)

## EDUCATION

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

Expected Grad: May 2025

University of Alberta, Edmonton, AB

GPA: 3.5/4.0

## EXPERIENCE

**Telematics Analyst Co-op, [North American Construction Group](#)**

Sep 2023 – August 2024

Sep 2024 - Present (Part-Time)

**Technologies:** Python, Flask, Numpy, Pandas, Javascript, React, HTML, CSS, Azure (Function Apps, App Services, SQL Databases), Esri ArcGIS Enterprise, Esri GeoEvent Server, ArcGIS Pro

- Developed Full stack Azure app service application with JS FrontEnd and Python(Flask) backend deployed using automated CI/CD pipelines through Azure DevOps for transferring data from OSI Pi API Server to Esri Goevent Server - (\$80,000 annual savings replacing existing 3rd party software)
- Automated file downloads from SFTP Server to Azure Blob Storage via Azure Time Triggered Function App, Automated data transfer from Esri GeoEvent to Pi API Server via Azure Event Hub Triggered Function App
- Currently developing an application to deliver equipment health KPIs and preventative maintainence suggestions using a microservice environment integrating Azure Web App( JS-React), Azure Function Apps, Azure SQL Databases, API Management and Azure Front Door.

## SOFTWARE PROJECTS

**Distributed Social Networking Application** ([Code](#) | [Video](#))

**Technologies:** React, JavaScript, Python, Django, REST API

- Collaborated with a team of six to develop a Javascript/React front-end and Django/Python back-end social networking application, deployed 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 with frameworks like Django and React

**Student performance prediction** ([Code](#))

**Technologies:** Python, Flask, Numpy, Pandas, sklearn, OpenGridCV, Seaborn, JS, HTML, CSS, HTML

- 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, HTML/CSS/Javascript for front-end, and Python-Flask for backend

## SKILLS

**Languages:** JavaScript, Python, SQL, KQL, HTML/CSS

**Tools & Frameworks:** React, Node, MongoDB, Git, Flask, Django, REST APIs, AJAX, WebSockets,

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

**Database:** PostgreSQL, MySQL

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

**Others:** ESRI ArcGIS Enterprise, 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

## **CERTIFICATIONS**

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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](#)]