

# KHUSHI BUDHWAR

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## Education

### University of Waterloo | Bachelor of Software Engineering

Sep 2021 – April 2026

- **Relevant Coursework:** Data Structures and Algorithms, Linear Algebra, Compilers, and Statistics
- Awarded the President's Scholarship of Distinction, received **\$3,500** for achieving an admission average of **99%**

## Skills

**Languages:** Python, SQL, R, Java, C, C++, C#, JavaScript, Bash, HTML, CSS, PHP, MATLAB

**Frameworks/Libraries:** PyTorch, TensorFlow, Scikit-Learn, Spark, Keras, Pandas, NumPy

**Tools:** Kubernetes, MLflow, Terraform, GCP, Docker, Git, Tableau, Apache Airflow, Jenkins, BigQuery, Power BI

## Experience

### Spotify | Product Data Science Intern

May 2024 – July 2024

- Contributed to the personalization team responsible for enhancing recommendation systems through causal inference methods, serving **570M+** monthly active users in **184** different markets
- Designed a statistical algorithm to forecast financial indicators from A/B test metrics to aid rollout decisions, projected to increase annual gross profits by **\$1M+**
- Extracted, merged, and wrangled **78M+** rows of data using Python, SQL, and BigQuery for data-driven insights
- Redefined audiobook recommendation cohorts through scenario analysis and EDA to increase user consumption

### Arami Lab | Undergraduate Research Assistant

Jan 2024 – Aug 2024

- Authored and researched proprioception through neural analysis of muscle activity using statistical modeling of **70K+** rows of EMG signals (publication pending)
- Implemented deep learning algorithms to predict proprioceptive responses, increasing model accuracy by **15%**

### AltaML | Machine Learning Associate

Sept 2023 – Dec 2023

- Conducted a time-series forecasting experiment for the Government of Alberta to predict current economic trends in the labor market, achieving a MAPE of **8%** using an LSTM model
- Performed feature engineering through sentiment analysis on **10,000+** online job postings and market statistics
- Developed a CI/CD pipeline in GitLab with Terraform, and Docker, reducing deployment time by **~20%**
- Created a dashboard using Databricks, Matplotlib, and Power BI to easily visualize real-time economic insights

### BlackBerry | Machine Learning Intern

Jan 2023 – April 2023

- Conducted an NLP classification experiment with an F1 score of **98%** on imbalanced data to identify open-source licenses in code comments using Pytorch and Tensorflow
- Designed a pipeline to extract, preprocess, and store **130K+** code comments, cutting data processing time by **45%**
- Developed an ML workflow using Terraform, MLflow, and Airflow to automate and track experiments

### VerticalScope Inc. | Software Engineering Intern

May 2022 – Aug 2022

- Responsible for the maintenance of a Kubernetes cluster hosted in GCP that serves **1,200+** community-driven forum sites that receive over **1 billion** requests weekly

## Projects

### NLP Next Word Predictor 🤖 | NLTK, TensorFlow, PyTorch

May 2023

- Constructed an LSTM model that can predict the next word by providing customized lengths of context
- Experimented with NLP models like BiLSTM, BERT, and GRUs using PyTorch to improve accuracy

### Reinvented Heardle 🎵 | JavaScript, MongoDB, React.js, CSS

April 2023

- Collaborated on an interactive game that prompts the user to guess the song from their personal Spotify Playlist after playing a short snippet

### TextSaver

Sept 2019 – Nov 2022

- Founded an all-women team to create a web app that condenses textbook pages into flashcards using Python
- Viewed in over **50** countries, has collected over **1,100** emails, and has gained over **\$1000** from angel investors