ANKUR BHARDWAJ

4th Year Computer Science and Statistics Student

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Technical Skills

Certifications	: AZ-900 Microsoft Azure Fundamentals
Languages	: Python, C/C++, Java, HTML, CSS, JavaScript, SQL, R, TypeScript
Tools	: Git, GitHub, Azure, Excel, Tableau, Terminal, PowerBI, VSCode, Jupyter Hub, R Studio
Libraries	: NumPy, pandas, matplotlib, scikit-learn, seaborn, mysql.connector, JUnit, Swing

Relevant Technical Projects

Speech Recognition System (Personal) | *Python, API*   *June 2024*
- Developed a Python-based speech recognition system to record and transcribe audio input using pyaudio and wave libraries for capturing and handling audio data
- Implemented an API integration for accurate transcription of recorded audio with a design to support various audio formats and seamless audio processing and transcription with efficient error handling

Personal Website (Personal) | *HTML, CSS, JavaScript*   *December 2023*
- Designed and developed a responsive website, ensuring a seamless user experience across various devices and screen sizes through Bootstrap framework with a user-friendly interface based on HTML, CSS and JavaScript
- Integrated jQuery for enhanced user experience and Font Awesome for enhancing visual appeal.

Campus Capture (Academic) | *TypeScript, JavaScript, HTML, CSS*   *Sept 2023 – Nov 2023*
- Optimized data handling with asynchronous calls, ensuring efficient processing of large datasets, enhanced data retrieval using parse5, fs-extra, and JSZip, enabling parsing of diverse file formats for improved accessibility.
- Worked in an Agile environment to ensure reliability through rigorous testing across backend, HTML parsing, and frontend implementation, ensuring seamless integration through a RESTful API design

Fitness Tracker App (Academic) | *Java, Swing, Junit, Git*   *July 2022*
- Designed and developed a fully functional GUI using Java libraries and Swing, allowing users to save and keep track of various aspects of their jogs, with JSON based data persistence, and TDD based JUnit testing

Library Database Management System (Personal) | *Python, MySQL*   *Mar 2021*
- Created a fully functional DBMS, with multiple memberships for different users, to manage a library (for issuing and returning of books) using MySQL for the database and Python libraries to perform operations

Data Science Projects

Dep2Phrase (Academic | Personal) | *Python, NLP*   April 2024 - Present
- Working closely with a professor to analyze and implement chunking techniques on constituency and dependency structures of sentences to evaluate the correlation between constituency and dependency chunking results
- Obtaining generalized merging rules from the constituency structures and applied the rules to generate a mapping between them, achieving Precision and Recall of 88% and 89% respectively

NYC Airbnb Regression Analysis | *R, Regression, Model Selection*   Nov 2023
- Conducted thorough EDA using visualizations on the NYC Airbnb dataset and applied necessary transformations for improved data understanding and model performance
- Addressed multicollinearity by dropping similar features and trained multiple regression models, employing Cp Mallow's statistic and AIC scores for effective model selection
- Selected the best-performing model based on Cp and AIC criteria, achieving a multiple R^2 score of 0.676 and an RMSE of 2.6365.

Miscellaneous Machine Learning Projects | *NLTK, scikit-learn, Seaborn, TimeSeries*   *Sept 2023 – Nov 2023*
- Achieved grades of 90% - 100% in bi-weekly Machine Learning projects covering Regression, Clustering, Classification, Dimension Reduction & Deep Learning algorithm/techniques
- Delivered insightful findings through model reports on testing and validation sets, outperforming class average accuracy by 5-10%

Greenest City Project – A Statistical Inference | *R, Hypothesis-testing, Git*   *Nov 2022*
- Conducted in-depth EDA including creation of multiple plots to visualize and analyze between the various predictor variables and target variables based on Vancouver authority data
- Cleaned and filtered the data to incorporate the necessary explanatory variables, and conducted hypothesis testing at 5% significance level and provided our findings along with a proposed future plan.

Work Experience

Undergraduate Teaching Assistant | *University of British Columbia*   Sept 2023 – Apr 2024
- Teaching assistant of statistics course: Elementary Statistics for Application; adapted teaching techniques to accommodate diverse learning styles and needs that improved student comprehension and performance
- Independently conducted and supervised a lab of 36 students, managed grading and provided constructive feedback to students, facilitating their academic growth and encouraging continuous improvement.

Catering Associate | *AMS Nest Catering and Conferences*   May 2022 – Sept 2023
- Organized events; worked in a high pace environment with extensive teamwork to ensure customer satisfaction

Volunteer Work Experience

Events and Outreach Director | *Undergraduate Statistics Society, UBC*   Jan 2023 - Present
- Responsible for organizing and conducting events; assisted the marketing team in promoting the events; maintained communication with the sponsors and other clubs.

Intern | *Suman Packaging Pvt. Ltd*., India   May 2021 - Aug 2021
- Interned at a corrugated boxes manufacturer company; coordinated orders of the clients to the manufacturing team; managed the finances of the business; gained invaluable experience about workings of a business.

Education

BSc (Computer Science and Statistics), University of British Columbia   Expected in May 2025
- Dean's Honour List with 3.9 GPA