Sanidhya Singh

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Vancouver, BC

Education

- **University of British Columbia** *Sept 2022 - April 2026*
  B.Sc. Double Major in Computer Science and Mathematics Vancouver, BC
  GPA: 85.1%
  - **CS Coursework:** Software Engineering, Computer Hardware and Operating Systems, Algorithm Design and Analysis, Software Construction, Data Structures and Algorithms, Computer Systems
  - **Math Coursework:** Applied Linear Algebra, Probability, Differential Equations, Discrete Math, Mathematical Proofs, Multi-variable Calculus, Methods in Statistical Inference, Statistics for Data Science
- **UC Berkeley (Exchange Program)** *June 2024 - August 2024*
  UBC Go Global Exchange Program Berkeley, California
  Coursework:
  - Introduction to Artificial Intelligence (A+)
  - Principles and Techniques of Data Science (A+)

Projects

- **Custom Neural Network Library [Inspired by Tensorflow]** *June 2024 - August 2024*
  Tools: Python, NumPy [ ]
  - Created a beginner friendly modular neural network class for custom architectures, loss functions, and training mechanisms.
  - Implemented Dense and Normalization Layers, and activation functions such as ReLU, Sigmoid, Tanh, and Softmax and ability to customize activation functions
  - Implemented vectorized forward and back propagation using NumPy, supporting stochastic, batch, and mini-batch gradient descent.
  - Added support for model evaluation using built in accuracy, recall, precision, and other metrics
- **Pac-Man AI Projects [UC Berkeley CS188: Intro to AI]** *June 2024 - August 2024*
  Tools: Python, NumPy
  - Implemented multiple AI agents for Pac-Man using a range of classical AI techniques such as Search, MiniMax, Bayesian Networks and Reinforcement Learning
  - Modelled the Pac-Man environment using MiniMax and ExpectiMax algorithms using optimization techniques such as Alpha-Beta pruning and Evaluation Functions
  - Implemented Q-Learning, Value Iteration, and generalized Q-Learning algorithms to find optimal policies
  - Built probabilistic models using Hidden Markov Models and particle filters to simulate a non-deterministic game of Pac-Man, improving decision making in uncertain scenarios
- **LeetJournal** *August 2024 - September 2024*
  Tools: MERN (MongoDB, Express, React, Node.js), Google OAuth, RESTful APIs [ ]
  - Built a full-stack MERN app allowing users to track coding problems, store notes, and save solutions, functioning as a personalized coding journal for LeetCode problems
  - Integrated Google OAuth/Redux to enable secure, user-specific access so that users can manage their progress, notes, and solutions privately
  - Implemented a RESTful API to handle question creation, editing, deletion, and displaying, enabling efficient communication between frontend and backend.

Skills

- **Programming Languages:** C++/C, Java, JavaScript, Python, R, SQL, Racket
- **Libraries:** Redux, Axios, Pandas, TensorFlow/Keras, Pytorch, NumPy
- **Data Science Tools:** Data Wrangling, EDA, Data Visualization using Matplotlib/Seaborn, Regex, PCA, Decision Trees, Regression and Classification, Clustering Methods
- **Web Development:** MERN (MongoDB, Express, React, Node.js), RESTful APIs, Google OAuth

Honors and Awards

- UBC Trek Excellence Scholarship 2024: *Amount of $1500 awarded to top 5% of students*
- UBC Go Global International Learning Programs Award 2024: *Awarded a $1000 scholarship for exchange term at UC Berkeley*
- UBC Dean's Scholar 2024

Certifications

- **Supervised Machine Learning: Regression and Classification** *June 2024*
  * DeepLearning.AI and Stanford via Coursera