KOVIDH JAIN

DATA SCIENTIST

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SKILLS

SOFTWARE

- Java
- MATLAB
- R/RStudio
- C/C++
- Python
- SQL
- Kubernetes/Docker
- Latex
- Minitab/Jmp
- Parallel Computing using C
- Google Colab
- Jupyter Notebook
- MS Excel
- MS Word
- MS PowerPoint
- Linux

EXECUTIVE SUMMARY

Highly motivated and skilled professional with **over 4 years of experience** using **R/Rstudio, Python, and Java**. Seeking to use my deep understanding of **coding**, **statistical, machine-learning techniques, and problem-solving** skills to **help organizations achieve their goals**. My ultimate objective is to leverage my skills and expertise to help people and make significant contributions to society as a whole.

EDUCATION

VIRGINIA TECH

BS in Computational Modelling and Data Analytics

Aug 2019 - May 2023

- Good Standing
- Overall GPA: 3.65
- Dean's List (All Semesters)

Minor in Computer Science

- In-minor GPA: 3.63

Minor in Mathematics

- In-minor GPA: 3.35

EXPERIENCE

Virginia Tech | Ecological forecasting | Python, GitHub, Google Colab

May 2023

- Developed a **Machine Learning Mode**l(Deep Learning) more specifically a **recurrent model(RNN)** to **forecast** the next **30 days**' water quality across 7 lakes in the USA.
- Implemented **data preprocessing** techniques and conducted **feature engineering** to prepare the input data for the model.
- **Fine-tuned** the RNN, leveraging techniques such as **Long Short-Term Memory (LSTM)** and attention mechanisms to capture **temporal dependencies** and **patterns** in water quality data
- Successfully achieved **highly accurate predictions** for the **first 10** days of the 30-day forecasts, providing **valuable short-term insights**

Virginia Tech | Project: DNA Tree | Java

Dec 2022

- Designed and developed a **DNA tree data structure** for efficient searching of matching DNA sequences in a large database.
- Implemented **class inheritance** to create abstract node classes for internal nodes, leaf nodes, and a flyweight node.
- Utilized a **5-way branching tree structure** with branches corresponding to the DNA alphabet **(A, C, G, T, and $)**.
- Implemented **recursive operations** for inserting and removing sequences from the DNA tree.
- Developed methods for **printing** the **tree structure, sequence lengths, and sequence statistics**.

Virginia Tech | Project: ExternalSorting Using Heapsort | Java

Oct 2022

- Developed an **external sorting algorithm** for **binary data**, utilizing a **MaxHeap** data structure and focusing on disk I/O operations on a random access file.
- Implemented a **Heapsort algorithm** using **MaxHeap** as the heap, to sort a file containing **4-byte records**. Each record consisted of two 2-byte integer values (key and data) within the range of 0 to 30,000.
- Utilized **Java's ByteBuffer** class for **efficient serialization** and **deserialization** of records, **optimizing** the processing of binary data.
- Designed and implemented a **buffer pool with a Least Recently Used (LRU) replacement scheme** to mediate access to the disk file, providing efficient disk I/O operations and optimizing memory utilization.

Virginia Tech | Project: Classy Banking | Python

May 2020

- Implemented a **banking system** simulation in **Python**, utilizing object-oriented programming and **inheritance** to create classes for different bank account types.
- Developed functionalities such as **deposit**, **withdrawal**, **balance check**, and **transactio**n tracking within the account classes.
- Utilized **test-driven development** approach to ensure the **accuracy** and **reliability** of the implemented methods.
- Demonstrated **strong programming skills**, professionalism, and attention to detail in creating a **robust and realistic** banking system simulation.