Sarthak Kakkar

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EDUCATION

Bachelor of Science in Computer Science

Northeastern University, Khoury College of Computer Science • Boston, MA, USA • GPA: 3.7 • 05/2026

EXPERIENCE

AI Software Project • Boston, MA, USA • 01/2024 - Present

Member

- Collaboratively developed software that automates the creation and evaluation of Machine Learning assignments, projected to save 15 hours a week for instructors.
- Increased efficiency by coaching 5 newer participants utilizing Streamlit with our custom utility library and appropriate testing, resulting in smoother project workflows.
- Designed and integrated more complex questions into the software, enhancing the question database.

Applify Tech Private Limited • 07/2023 - 08/2023

Intern

- Operated with the team to understand the implementation of Agile methodology using a Jira board.
- Optimized structure management and client communications, leading to a 25% reduction in errors and a more cohesive productive team environment.
- Facilitated documenting meetings and developing subsequent sprint goals.

Pushing the Boundaries with TMNIST • 01/2023 - 04/2023

Author

- Collaborated with industry experts to present a study on Mapping the Typographic Latent Space of Digits at the International Conference for Learning Representation.
- Effectively communicated research findings at RISE, resulting in a 30% increase in inquiries about the research and its applications.
- Contributed to the implementation of algorithms like Beta-VAE's, gaining insight into typographic feature latent space mapping and inspiring potential modifications for PANOSE.

PROJECTS

Random Forest Weather Analysis • 01/2024 - 03/2024

- Built a program involving a Python-based Random Forest algorithm to categorize and examine 30 years of Boston's weather data to generate the feature importance.
- Installed data collection from an online weather API and subsequent storage using PostgreSQL.
- Computed an approximate 80% accuracy.
- Determined and analyzed a confusion matrix to identify the API sensor limitations while including frequent misclassifications to augment accuracy.

PUBLICATIONS

Mapping the Typographic Latent Space of Digits • 04/2023

International Conference for Learning Representations

SKILLS

Languages: C++, Java, Python, SQL

System: Linux, macOS, Windows

Programs: IntelliJ IDEA, Jupyter Notebook, Microsoft Visual Studio, MySQL, PostgreSQL, Tableau, Vim, Visual Code Studio

Machine Learning: Beta-VAE's, Clustering, Kernel Density Estimation, Large Language Models, Maximum Likelihood, Principal Component Analysis, Random Forest, Regression, Sampling

Java: File System, Graphical User Interface, JavaFX, JSON, JUnit 5

Python: Data Analysis, Data Mining, Data Visualization, ETL Pipeline, Machine Learning, Matplotlib, Numpy, Pandas, Pipeline, Scikit-Learn, Statistical Modeling

C++: GDB, Multi-Threading, Smart Pointers, Test-Driven Development, Unit Tests, Valgrind

Development: Agile Software Development, Application Programming Interface, CI/CD Pipeline, Data Structures and Algorithms, Git, Github, JIRA, Latex, Linux Server Environment, Object Oriented Design Principles, Operating Systems, Software Design Patterns, Version Control