

Sarthak Kakkar

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EDUCATION

Northeastern University, Khoury College of Computer Science

Bachelor of Science in Computer Science | Business Administration minor | GPA: 3.70

Boston, MA | 05/2026

WORK EXPERIENCE

Movement NeuroScience Lab

Boston, USA | 01/2025 - 06/2025

Embedded Systems Engineer Co-op | Full-time

- Engineered an integrated system of electrical stimulators, force sensors, and control modules for high-precision data acquisition from subjects.
- Designed a modular, object-oriented platform—featuring a fully async-adapted API, adaptable to multiple configurations and diverse use cases.
- Incorporated a patient-feedback optimization algorithm into the experimental data visualization and analysis pipeline, enhancing therapeutic outcomes.
- Independently led critical project development initiatives while collaborating with a multidisciplinary team to deliver breakthrough solutions.

Northeastern University

Boston, USA | 09/2024 - 12/2024

Teaching Assistant | Part-time

- Hosted weekly virtual and in-person office hours, assisting students with their C++ projects on the Khoury Linux server.
- Graded projects, and assignments for a class of more than 100 students, resulting in a more organized and efficient classroom environment.
- Provided personalized support to students, working as a Teaching Assistant for the Programming in C++ course at Northeastern University.

Wissen Infotech

Bangalore, India | 06/2024 - 08/2024

LLMOps Intern | Full-time

- Designed an LLM-powered accelerator, advancing AI-driven automation, and projected to reduce processing times by 2-3 months.
- Designed and deployed a multi-agent system for automated testing and error correction, enhancing reliability and precision.
- Built a dynamic, chain-based codebase that boosted testing and production efficiency by 30%.
- Led research initiatives to fine-tune Large Language Models for specialized tasks, optimizing model performance for industry applications.

Applify Tech Private Limited

Mohali, India | 07/2023 - 08/2023

Intern | Full-time

- Developed a backend in Java with JDBC while learning 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, developed subsequent sprint goals, and presented to various clients.

PROJECTS

Portfolio Website

- Built with React, React Router DOM, and Tailwind CSS, featuring smooth animations and transitions.
- Designed a mobile-first, responsive UI with a clean and modern layout including easily editable JSON configuration files for scalability.
- Hosted the website on Netlify, allowing for continuous builds and update pipeline.

AI Powered Communication Assistant

- Developed an AI-powered chat workflow to streamline inquiries about my professional profile, enhancing communication and response management.
- Implemented an AI-generated notification system that delivers real-time alerts with inquirers' details (name and email), ensuring effective follow-up.
- Built using LangChain and LangGraph, monitored through LangServe, and designed as a practical use case of the supervisor architecture.

PUBLICATIONS

Mapping the Typographic Latent Space of Digits

04/2023

International Conference for Learning Representations

Used disentangled Beta-VAE's in an unsupervised learning approach to map latent feature spaces with a dataset of MNIST Style Typographic Images across 2990 unique font styles, helping typographers explore new attributes for their classification systems.

SKILLS

Languages and Frameworks: C++, Java, JavaScript, Langchain, Langgraph, Python, SQL

System and Tools: IntelliJ IDEA, Jupyter Notebook, Langsmith, Linux, macOS, PowerBI, Pycharm, Vim, Visual Studio, VMware, Windows

Machine Learning & Data Science: Beta-VAE's, Matplotlib, Numpy, Pandas, PCA, PyTorch, Random Forest, Regression, Scikit-Learn

Software Development: Agile, API Development, CI/CD, GDB, Java Database Connectivity, JUnit 5, OOP, React, Tailwind, Unit Testing

Version Control & Collaboration: Git, GitHub, JIRA, LaTeX