

EDUCATION

Northeastern University

Master of Science in Computer Science

Boston, MA

Sep 2025 – May 2027

- **Coursework:** Programming Design Paradigm, Algorithms

PES University

Bachelor of Engineering in Computer Science

Bangalore, India

Oct 2021 – May 2025

- **Coursework:** Statistics in Data Science, Data Analytics, Graph Theory, Machine Learning
- **GPA:** 3.6/4.0

WORK EXPERIENCE

PES University

Research Intern

Jan 2025 – Apr 2025

Bangalore, India

- Developed citation network analysis framework processing 5,000 academic papers to identify **2,000 self-citation loops** using graph-theoretic random walk algorithms and adjacency matrix computations.
- Implemented LLM-based classification system with iterative prompt engineering and self-contrast techniques, reducing prompt loss to **0.082** across 49 labeled citation cases.
- Applied two-stage summarization pipeline using Google's Gemini model and regex-based citation context extraction for comprehensive contextual understanding of citation patterns.
- Achieved **91.84% classification accuracy** with OpenAI's o1-mini model (**16.33% improvement over baseline**), delivering **0.93 F1-score** for essential vs non-essential citation detection.

IIITB

Research Intern

May 2024 – July 2024

Bangalore, India

- Developed a self-supervised learning pipeline for end-to-end Automatic Speech Recognition (ASR) using the DeepCluster framework.
- Preprocessed raw audio waveforms into log-mel spectrograms and employed a Transformer-based encoder to extract latent feature embeddings from unlabeled data.
- Applied differentiable K-means clustering on embeddings to generate pseudo-labels (prelabels) for iterative network training.
- Built a robust acoustic foundation model that can be fine-tuned for downstream ASR tasks.

PROJECTS

NetPorter — C, Socket Programming

[Repo](#)

Built an FTP server using TCP sockets with a CLI for efficient file transfers. Implemented user authentication and authorization for secure hosting, upload, and download.

ExecuShell — C, Unix/Linux System Calls, GNU Make

[Repo](#)

Developed a minimalist shell in C with built-in commands (`cd`, `clear`, `exit`). Added file redirection, piping, chaining, and history navigation features.

University Student Services Portal

[Repo](#)

Developed a centralized online portal for university students integrating secure fee payments, discussion forums, study material access, and mentor-student forms, improving accessibility and administrative efficiency.

ReWire — Next.js, Tailwind CSS, Prisma, PostgreSQL

[Repo](#)

Developed a web platform for buying and selling used electronic parts to promote sustainability. Implemented secure user authentication, advanced search/filtering, and product listing management using a scalable serverless backend.

PUBLICATIONS

Detecting Anomalous Self-citations Using Citation Network Analysis and LLMs

EANN 2025 (Springer CCIS, vol. 2581)

SKILLS

Programming Languages: C, C++, Golang, JavaScript, Java, HTML, CSS, Python, SQL, TypeScript

Tools: Amazon Web Services (AWS), Zookeeper, Redis, Docker, React, Flask, Git, Hadoop, MongoDB, MySQL, Numpy, Pandas, R, PostgreSQL, PyTorch, TensorFlow, Apache Spark, Linux, Kubernetes, Kafka, Prisma