

Karthik Sairam

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EDUCATION

University of Colorado Boulder

May 2025

Master of Science in Computer Science

- GPA: 3.9/4
- Relevant Coursework: Natural Language Processing, Computer Vision, Theory of Computation

PES University

May 2023

*Bachelor of Technology in Computer Science, **Specialization in Network and Cyber Security***

TECHNICAL SKILLS

Languages: Proficient in Python, C, PostgreSQL, MongoDB, Ansible. Familiar with C++, MATLAB, HTML, CSS, JavaScript, OCaml

Frameworks and Tools: React, FTK Imager, Docker, Kubernetes, Git, Docker, AWS, Notion, Jira

WORK EXPERIENCE

Associate Devops Intern

January 2023 – June 2023

Sprinklr

- Streamlined backend operations by automating **Elastic Search** tasks using **Python** and **Jenkins**, resulting in a 30% increase in the operational efficiency of the NOC team
- Advanced operational optimization through the development of automated **Ansible** solutions for the operations of **AWS S3** buckets and **MongoDB**

Graduate Teaching Assistant (CSCI 3753: Operating Systems)

January 2024 – May 2024

University of Colorado Boulder

- Conducted weekly recitations and provided dedicated office hour support to improve student understanding of course material.
- Elevated lab performance through expert debugging, mastering core concepts, and delivering clear explanations with illustrative examples, consistently exceeding expectations.

Undergraduate Teaching Assistant (Applied Cryptography)

August 2022 – December 2022

PES University

- Organized and led Capture The Flag (CTF) competitions, fostering hands-on learning and practical skill development.

Research Intern

August 2022 – December 2022

Center for Information Security, Forensics and Cyber Resilience, PES University

- Conducted an extensive feasibility study on integrating Blockchain for optimizing HealthCare 4.0 and drafted a literature review paper titled "Blockchain and Security in Healthcare: A Systematic Review" for the work done

PROJECTS

Multimodal Emotion Cause Analysis in Conversations

September 2023 – December 2023

- Built RNN with LSTM layers, word embeddings and BERT-based models to analyze emotion causality in conversations using **Tensorflow** and **Keras**
- Improved LSTM model training accuracy by 47% through feature engineering and pre-processing

Paraphrase Detection System in a Low-resourced Language

January 2022 – June 2023

- Implemented Python-based Kannada paraphrase detection, enhancing accuracy by 15% with decision tree classifiers. Simultaneously curated datasets, integrated MSRP corpus, and applied NLP processes.
- Developed a user-friendly frontend with **Flask** to enhance accessibility and usability, and utilized **Docker** for streamlined deployment, ensuring efficient and scalable implementation of the system

PUBLICATIONS

- "Paraphrase Generation and Deep Learning Models for Paraphrase Detection in a Low-Resourced Language: Kannada", Advances in Data-Driven Computing and Intelligent Systems (ADCIS 2023), Goa, India ([Link](#))
- "Paraphrase Detection in a Low Resourced Language: Kannada" 8th International Conference for Convergence in Technology (I2CT), Pune, India ([Link](#))