# Pavan Kumar Nuthi

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## Education

**University of California, Davis** **September 2025 – May 2027**
*Master of Science in Computer Science*

## Technical Skills

**Languages**: C++, C, Python, Java, JavaScript, Arduino, Perl, TypeScript
**Tools & Technologies**: ReactJS, Node.js, Pandas, Numpy, Matplotlib, Docker, Streamlit, Socket, Kubernetes, AWS, Azure, GCP, Elasticsearch, Jenkins, SQL, MongoDB, Neo4J, Canva, Linux, Git, Kafka, Spark, Okta

## Experience

**Athenahealth** **January 2025 – Present**
*Associate Member of Technical staff* *Bengaluru, India*

- Implemented a password cleanup strategy in Oracle databases, strengthening overall system security and reducing attack surfaces.
- Developed and supported automated user provisioning workflows from external hospital Identity Providers (IdPs) reducing on-boarding time by over 90%.
- Developed the backend for a user migration service to transition user accounts from Athenahealth's application to Okta, enabling secure and centralized identity management.

**Sprinklr** **August 2024 – December 2024**
*Associate Devops Engineer* *Bengaluru, India*

- Completely automated the process of setup of infrastructure for Elasticsearch servers using Ansible and improved the speed of setup by over 90%.
- Involved in designing and creating resiliency scripts for monitoring resources deployed on Elasticsearch servers, as well as implementing auto-remediation tasks in response to any server-related issues.
- Involved in reducing the recovery time objective(RTO) by over 90% by making solutions for automating the entire process of disaster recovery by using Ansible playbooks and minimizing manual intervention.

**Sprinklr** **January 2024 – June 2024**
*Devops Intern* *Bengaluru, India*

- Designed disaster recovery solutions by making solutions for almost real-time replication of data in the disaster recovery environment.
- This resulted in a decrease of the recovery point objective (RPO) to almost 2 hours and improved fault tolerance by more than 99%.
- Refactored legacy code written in Perl to Python.

**PES University** **August 2023 – December 2023**
*Teaching Assistant-DBMS Course(UE21CS351A)* *Bengaluru, India*

- Assisted in creating new course material from scratch based on the concepts from the textbook "Database System Concepts" and various online resources.
- Developed practical and challenging course assignments weekly throughout the semester.

## Projects

**Mini Kafka** | *Python,Socket Programming,File System*

- Facilitating communication through Socket Programming for message transmission between producers and brokers.
- In this devised implementation, topics serve as meticulously organized directories, while partitions are structured as subdirectories nested within. Within these partitions, messages generated by producers are stored as individual text files.
- The data is served from files stored within topics from the file system, and consumers can subscribe to multiple topics, each consumer has a dedicated offset.

**Real Time Crypto Currency Application** | *Spark,Kafka,Node.js,Typescript,Tailwind css*

- Established a connection with the Coinbase API to get real-time insights into cryptocurrency prices like Bitcoin, Dogecoin, and Litecoin.
- Spark framework is used for real-time analysis of this data stream, channeling it into a SQL database for future batch processing.

- The processed dataset is then sent to a Node.js-based server with Kafka integration. The data is send to a frontend interface which simplifies raw data into graphical representations.

**Car Rental System** | *Streamlit, MySql*

- Designed and built user interface using Streamlit that handle both data retrieval and manipulation tasks. Users can efficiently run SQL queries from the frontend.
- Created an efficient back-end system using proper use of Entitiy-Relationship diagram ensuring that no redundant tables are created while creating the database.
- Triggers and functions are implemented to enhance the integrity of data and automate the process while securing a car rental.

## Research

**Multi-Modal Video Summarization using Attention based Transformers(MVSAT)** | *Python,Transformers,GPT2*

- Multiple modalities of input are used by retrieving visual features from frames, which are then described to generate captions, from which textual features are extracted.
- The textual and visual features are aligned and merged through the use of position embedding, and a variety of feature extraction techniques were evaluated for textual and visual inputs and employed as transformer model input.
- Outperformed state-of-the-art methods currently in use by over 3 percent for video summarization on the SumMe dataset and nearly 2 percent for the TVSum dataset.

## Achievements

**Bugs and Bytes Hackathon 2022 by Risckcovry** **15th October 2022**

*Country Level Hackathon, Third Place* *PES University*

- Given a dataset containing automobile data, the problem statement was to identify and flag phoney license plates.

**Recipient of the Prof. MRD Scholarship at PES University**

- Awarded to the students in top 20% of students in Computer Science and Engineering out of 1200 students for outstanding academic achievements.