# SWETA VOODA

+1 (972) 710-9962 | U.S. Citizen | sweta.vooda@gmail.com | https://www.linkedin.com/in/sweta-vooda/

I am a Masters student in Computer Science with a specialization in Computing Systems, I bring a solid background in full-stack development and a keen interest in backend systems. I am actively seeking a ***Summer Internship in Software Development*** where I can employ my technical skills and problem-solving abilities to improve system efficiency, deliver outstanding quality, support organizational objectives, and foster a team-oriented atmosphere.

## EDUCATION

**Georgia Institute of Technology** - Atlanta, Georgia **Aug 2023 – May 2025**
Master of Science in Computer Science, Specialization: Computing Systems – GPA: 3.6/4

- **Courses**: Advanced Operating Systems, Database implementation, Computer Networks, High Performance Computer Architecture, System Design for Cloud Computing
- **Activities**: Member of Supercomputing club

**Keshav Memorial Institute of Technology** - Hyderabad, India **Aug 2018 – Aug 2022**
Bachelor of Technology in Information Technology - CGPA: 8.3/10
Awards: Best Outgoing student of batch 2022

- **Relevant Coursework**: Database Management systems, Operating Systems, Discrete Mathematics, Data structures Algorithm design and Analysis, Computer Networks, Computer Organization, Object Oriented Programming

## WORK EXPERIENCE

**Amazon, Alexa Subscriptions onboarding | Software Development Engineer** **July 2022 – July 2023**

- Collaborated on design and implementation of **Lambda-SQS based event processing service**; processing on average **14.1K messages/day**, scaling up to **460K messages/day during peak** times **serving 1.3M unique customers in a peak week**; streamlined the service launch by leading the **Operational Readiness Review** to ensure stringent security and maintenance operational systems, solidifying service robustness for production deployment.
- Innovated a **metric factory** within Spring Aspects to track previously undetected error metrics; this initiative led to a **72% reduction of system failures,** established automated monitoring, and enhanced code quality and operational efficiency.
- Single-handedly executed UI improvements using JSP, JSTL, Ajax, Amazon UI components as an away team project, that contributed to a **17.8% surge in Purchase Completion rates** optimizing user experience and compliance.
- Collaborated globally to defend a DDoS attack by identifying and blocking suspicious IPs, bolstering security, and user experience.
- Addressed missing metrics in business dashboards through an emergency production fix and backfill solutions **using SQL and Redshift**, successfully **recovering 67% of lost data**.
- Provided **24/7 production support**, resolving critical issues, root-causing, and fixing **high-severity tickets** to maintain pipeline health, and supported weekly production deployments as **DevOps support**.

**Adobe Systems | Product Intern** **May 2021 – August 2021**

- Designed and developed a proof of concept for increasing the throughput of an email campaign service by integrating **Redis** as a configurational-based **shared secondary cache** on top an in-memory caching system.
- Addressed design aspects such as redundancy, concurrency, cache levels, eviction policies, and cache coherency.

## TECHNICAL SKILLS

- **Programming languages** – Java, C++, C, Python , Kotlin, Scala
- **Database Systems** – MySQL, PostgreSQL, SQLite, MongoDB, CockroachDB, Milvus
- **Web Development** – HTML, CSS, JavaScript, Angular, React, Spring MVC, Rest API, JSP, JSTL, Ajax
- **HPC**: OpenMP, MPI, gRPC; Docker, OSPF and BGP configuration; Compute Schedulers: Slurm
- **Tools** - IntelliJ, GIT, jUnit, VSCode, Eclipse, Spyder, Jupyter, ScalaTest, libvirt (for virtualization management)
- **Amazon Web Services:** RedShift, Dynamodb, AWS Lambda, CloudWatch, S3; **Others**: Redis cache, Docker

## SELECT PROJECTS

**MapReduce Framework Development** **December 2023**
C++ | gRPC

- Implemented the MapReduce framework inspired by the original paper for processing large text files using gRPC in C++. Optimized performance through file sharding and asynchronous completion queues, ensuring dynamic workload distribution and resource efficiency.

**LangCache Semantic Caching Library for LLM Queries** **November 2023**
Python | Database - Query optimization | Cache | OpenAI

- Created LangCache, a semantic caching library to boost LLM query efficiency. Integrated with OpenAI GPT-3.5, improved workflow by **query optimization** and implemented advanced storage solutions, achieving higher cache-hit rates and **improved performance by 30%.**

**Implementation of Barrier Synchronization algorithms using OpenMP and MPI** **October 2023**
OpenMP | MPI | C | Slurm |

- Developed and implemented advanced barrier synchronization algorithms using OpenMP and MPI in C, drawing inspiration from Mellor-Crummey and Scott's research. Conducted comprehensive experiments on the PACE COC ICE Cluster, analyzing algorithm behavior and performance in-depth.

**Dynamic Resource Management for Virtual Machines** **September 2023**
libvirt | C | CPU and Memory Virtualization

- Developed a vCPU scheduler and memory coordinator as part of a project, leveraging C programming and the `libvirt` toolkit to dynamically manage resources for guest virtual machines, including hypervisor calls for load balancing, memory ballooning, and efficient resource allocation, while ensuring optimal performance and stability.

**Mini-Internet Network Connectivity Project** **September 2023**
BGP | OSPF | IXP | RPKI

- Designed and operated a mini-Internet, collaborating with over 100 classmates to establish end-to-end connectivity across 70 Autonomous Systems (ASes) using routing and switching technologies, including OSPF and BGP, while implementing BGP policies and security measures based on business relationships and RPKI to mitigate BGP hijacks.

**Open-source contribution, MetaBrainz organization** **February 2020 – May 2020**
Python | Database Design

- Submitted a design proposal for a backend database system to ensure multi-version compatibility of the application. This design was crucial for enhancing data acquisition, which in turn improved predictive capabilities in a machine learning model (v2 data).

**Drishti – Automated Attendance using facial recognition** **September 2019**
SQLite | Python

- Designed and developed backend database and system for the machine learning model to generate dashboards of the attendance.

## CERTIFICATIONS

- **Introduction to Distributed SQL and CockroachDB** Cockroach Labs – October 2023
- **Introduction to Serverless Databases and Cockroach Serverless** Cockroach Labs – October 2023
- **Improving Deep Neural Networks** - Hyper-parameter tuning, Regularisation and Optimisation. Coursera – May 2020
- **Neural Networks and Deep Learning** Coursera – May 2020
- **Business English certificate Vantage** Cambridge English - April 2020
- **Python for Data Science –-** top **2%** with score of 86/100 NPTEL – November 2019

## CO-CURRICULAR and VOLUNTEERING ACTIVITIES

- **Smart India Hackathon Team lead** developed an emergency dialing feature app and presented the proposal to the selection committee.
- **Authored articles** covering topics such as COVID Responsibilities, Rally for Rivers for college e-magazine.
- **Merit in Carnatic music certification** exam from Pottisriramulu Telugu university and also a trained Kuchipudi dancer
- **CSIA organization volunteer** during the Covid pandemic for personalized patient requests, such as plasma, hospital beds, medication.