

Adarsh Singh

🏠 719 Southgate Drive, State College, PA, 16801
☎ +1 8574688223 ✉ singhadarsh7890@gmail.com 🌐 [adarshsingh2931](https://www.linkedin.com/in/adarshsingh2931) 📄 [Adarshsingh7890](https://github.com/Adarshsingh7890)

Education

The Pennsylvania State University

Master of Science in Computer Science and Engineering (GPA: 3.70 / 4.00)

Expected Dec 2024
State College, PA, United States

- **Relevant Coursework:** Analysis of Algorithms(C++), Advanced Operating Systems, Distributed Systems.

University of Mumbai

Bachelor of Engineering in Computer Engineering (GPA: 9.43 / 10.00)

Aug 2019 - May 2023

Mumbai, India

- **Relevant Coursework:** Data Structures and Algorithms, Web Development, Cloud Computing, Machine Learning.

Experience

Pennsylvania State University

Graduate Assistant - Operating Systems

Aug 2023 (Present)

State College, PA

- Conducting collaborative problem-solving sessions and office hours for student support.
- Spearheading the development of multi-threaded synchronization solutions with path expressions.
- Implementing synchronization logic for diverse scenarios such as Bounded Buffer, Readers-Writers problem and efficiently managing multiple threads using Pthreads.

Union Bank of India

Software Engineer Intern

June 2022 – Aug 2022

Mumbai, India

- Developed a microservices-based system using Java Spring Boot, leading to a 30 % reduction in server load and improved scalability.
- Implemented JWT Token protection for enhanced security.
- Integrated an API gateway and Eureka server, optimizing system performance and security, resulting in a 20% reduction in response times.
- Technology Stack: Java, Spring Boot, Docker.

University of Mumbai

Research Intern

June 2021 – Dec 2021

Mumbai, India

- Developed a deep learning system for brain tumor type and grade identification using image segmentation.
- Implemented and fine-tuned deep learning models (ResNet50, VGG16, Densenet121), yielding significant performance improvement of about 6%.
- Presented research at an international AI conference, with proceedings published in Springer's "Algorithms for Intelligent Systems."
- Technology Stack : Python, TensorFlow, Django, HTML, CSS, Javascript.

Projects

Parallel Distributed File System | Java, gRPC, Pthreads, Linux, AWS

- Designed and implemented a gRPC-based Parallel File System (PFS), reducing file access latency by 10% and leveraging AWS cloud services for hosting.
- Contributed to Metadata, File Servers, and Client modules, enhancing system stability by 15%.
- Implemented dynamic striping of files across servers, client caching, and token-based locking for concurrency control, resulting in an increase in system throughput.

Strongly Consistent Key-Value Store implementation in Go | Golang, Distributed Systems, MySQL.

- Co-developed a distributed Go-based key-value store using the Paxos algorithm, improving scalability significantly.
- Integrated essential functions (addition, deletion, retrieval) for enhanced data management, resulting in a 12% efficiency gain.
- Engineered fault tolerance for server failures, reducing downtime by 20% while ensuring data consistency.
- Managed client-server communication with advanced error handling and retries, boosting system reliability.

Technical Skills

Languages: Java, C++, Python, Go, Javascript.

Front-End Development: HTML, CSS, Javascript, Bootstrap.

Technologies: Spring Boot, gRPC, MySQL, TensorFlow, Django, AWS, Docker, Linux, Git.