

Abdalla Mohamed

4696554813 | abdallam.personal@gmail.com | Arlington, TX, USA
[linkedin.com/in/abdallamoh/](https://www.linkedin.com/in/abdallamoh/) | abdallam1007.github.io | github.com/abdallam1007

EDUCATION

Ph.D. Student in Computer Science University of Texas at Arlington	2025 – Current GPA: 4.0/4.0
B.S. in Computer Science Carnegie Mellon University	2019 - 2023 GPA: 3.5/4.0

WORK EXPERIENCE

University of Texas at Arlington | Arlington, TX | PhD Student | 08/2025 – Current

- Researching semantics-aware inference sampling for relational foundation models to improve prediction quality under constrained token budgets
- Leveraging LLM-extracted relational semantics to guide inference-time sampling toward more structure-aware outputs
- Targeting improved performance at equivalent sequence lengths and baseline matching at reduced token cost
- Served as Teaching Assistant for Database Systems and File Structures

Carnegie Mellon University | Doha, Qatar | Research Assistant | 04/2025 - 08/2025

- Designed and delivered hands-on computer science and robotics workshops for audiences ranging from grade school students to working professionals, translating complex technical concepts into accessible material
- Developed and maintained technical curricula and instructional materials covering programming, algorithms, and robotics systems
- Debugged and repaired robotic hardware and software systems, diagnosing sensor, control, and integration issues to ensure reliable operation during sessions
- Evaluated and experimented with multiple robotics platforms to assess suitability for future educational deployments
- Collaborated with faculty and outreach staff to plan and execute technical camps and training programs at scale

Avey | Doha, Qatar | Full Stack Engineer | 03/2024 - 11/2024

- Built and maintained web applications using Django with RESTful APIs and React frontends
- Designed clean API interfaces and integrated frontend components for responsive user experiences
- Provided on-call production support, diagnosing and resolving system failures under time constraints
- Improved system stability by quickly mitigating outages and performance issues

Snoonu | Doha, Qatar | Software Engineer | 04/2023 - 03/2024

- Designed and implemented backend services using C# and .NET, contributing to production-scale systems used by thousands of users
- Developed standalone SaaS components, supporting business expansion and revenue growth
- Debugged and optimized backend services to improve system reliability and performance
- Collaborated with cross-functional teams to deliver features end-to-end in an agile environment

PROJECTS

Clustering on MapReduce and MPI | Java, C

Implemented the k-Means clustering algorithm using MPI and Hadoop MapReduce in C and Java. Performed performance and scalability evaluations comparing MPI and MapReduce across multiple datasets, analyzing the impact of process counts, map slots, HDFS block sizes, and cluster size to understand parallel efficiency and system trade-offs

Distributed File System and Access Kit | Java

Designed and implemented a Distributed File System in Java RMI that supports remote file operations across multiple storage servers. Enhanced the basic system with synchronization using read-write locks to ensure consistency under concurrent access and developed dynamic replication and load balancing policies to improve performance and scalability by redirecting clients to multiple replicas rather than a single server.

Video Content Distribution Networks (CDN) | C

Augmented an HTTP proxy by adaptive bitrate selection using throughput estimation to stream the highest quality encoding possible. Implemented DNS load balancing using round-robin and geographic distance to spread the load of serving videos among multiple servers.

BitTorrent | C

Developed a Peer2Peer BitTorrent-like file transfer application that enables simultaneous upload and download of chunks of files. Implemented Slow Start, Congestion Avoidance, Fast Re-transmit and Fast Recovery mechanisms on top of UDP to ensure fair, reliable, and efficient network utilization.

SKILLS

- **Machine Learning and DL:** PyTorch | PyTorch Geometric | scikit-learn | wandb | NumPy | Pandas | Slurm
- **Languages:** Python | C | C++ | Java | JavaScript | C# | .NET
- **Web & DevOps:** React | Django | Docker | Kubernetes | GitHub | GitLab