

# OSAMA DABBOUSI

[osamadabb.github.io](https://osamadabb.github.io) | +966 555 084 607 | [osama.dabbousi@gmail.com](mailto:osama.dabbousi@gmail.com)

## EDUCATION

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<b>King Abdullah University of Science and Technology (KAUST)</b> Master of Science in Computer Science	Thuwal, Saudi Arabia <i>Expected May 2026</i>
<b>Boston University, BU Faculty of Computing &amp; Data Science</b> Bachelor of Science in Data Science; <b>Summa Cum Laude</b>	Boston, MA May 2024
<b>Relevant Coursework:</b> High Performance Computing; Numerical Linear Algebra; Concurrency; Digital Design & Computer Architecture. <b>Research Interests:</b> High-Performance Computing, Parallel Algorithms, GPU Architectures, Scientific Simulation.	

## HONORS & AWARDS

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<b>Rhodes Scholarship Elect</b>	Nov. 2025 – Present
• Awarded a full scholarship to pursue graduate studies at the University of Oxford; selected for academic merit, leadership, and service.	
<b>BU College of Computing and Data Science (CDS) Academic Excellence Award</b>	Nov. 2024
• Recognized as the top undergraduate student at the College of Computing and Data Science for outstanding academic performance, leadership, and collaboration skills.	
<b>KAUST Gifted Student Program Scholarship (KGSP)</b>	Feb. 2020 – Feb. 2024
• Fully funded, merit-based scholarship awarded by King Abdullah University of Science and Technology to top Saudi students for undergraduate study at leading global universities.	

## RESEARCH EXPERIENCE

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<b>Advanced Algorithms and Numerical Simulation Lab - KAUST</b> Advisor: Prof. Parsani. Research on GPU-accelerated simulation for large-scale acoustic modeling	Thuwal, Saudi Arabia Oct. 2024 – Present
• Designed a multi-GPU acoustic framework achieving $\sim 10\times$ speed-up over a serial baseline through fine-grained domain partitioning, asynchronous kernel scheduling, and communication-computation overlap.	
• Investigated algorithmic strategies for load balancing and spatial data locality to improve scalability across distributed GPUs.	
• Contributed to the porting of an in-house CFD solver from CPU to GPU, focusing on memory-hierarchy optimization, cache-optimized data layouts, and coalesced spatial access to maximize throughput.	
<b>Machine Learning Research Group - BU</b> Advisor: Prof. Kon. Research on automated and distributed meta-learning for cancer classification	Boston, MA Sept. 2023 – Aug. 2024
• Collaborated with a team of 8 researchers in the creation of a meta-learning pipeline capable of selecting between dozens of training configurations for the task of cancer classification.	
• Implemented cloud-based model training leveraging a distributed multi-node system using SSH protocols.	
• Created modules that interfaced with the larger pipeline, which were used for data augmentation, feature extraction, and model training.	

## WORK EXPERIENCE

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<b>Boston University / KAUST</b> Teaching Assistant Intro to Algorithms, Natural Language Processing, Probability & Statistics and Numerical Linear Algebra	Jan. 2023 - Present
• Taught classes of 10-20 students	
• provided detailed feedback to enhance students' grasp of advanced concepts in discussion and office hours.	
<b>Aramco Americas</b> Data Science Intern	Boston, MA June - Aug. 2023
• Produced a retrieval-augmented generation (RAG) pipeline capable of querying thousands of academic articles for well-cited and accurate answers to user questions.	
• Designed interface that leverages LLMs to answer questions using cited excerpts of relevant academic texts.	
• Launched a user-friendly web application, enabling company employees to seamlessly access the pipeline.	

## PATENTS

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- U.S. Patent No. US-20250078472-A1 – “Automated Methods for Generating Labeled Benchmark Data Set of Geological Thin-Section Images for Machine Learning and Geospatial Analysis.” Granted 2025.

## SKILLS

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**Languages:** English (fluent), Arabic (fluent)  
**Programming Languages:** Python, C++, SQL, CUDA  
**Frameworks:** PyTorch, Git, Linux, OpenMP