Shaibal Saha

+1-248-710-7404 | shaibalsaha@oakland.edu | My portfolio

in LinkedIn | ○ GitHub | ◆ Google Scholar

Auburn Hills, Michigan - 48326, USA

EXPERIENCE

Oakland University *September 2022 - Present*
Graduate Research Assistant Rochester Hills, USA

- Conduct research on optimization techniques for deep neural networks in Edge environments to enhance performance and efficiency.
- Implement and analyze new model compression techniques, including pruning and quantization, for transformers and hybrid models for generalized application/domain-specific applications.
- Conduct research on medical imaging task optimization techniques for heterogeneous platforms such as FPGA, Jetson Nano, and Nvidia AGX Orin.
- Study multi-modal detection models for Autonomous Driving Systems, focusing on hardware/software co-design for optimized deployment.
- **Frequently used tools:** PyTorch, TensorRT, Vitis-AI, Vaitrace, Monai, Numpy, Pandas, CUDA

Code Aristos *January 2019 - June 2022*
Software Developer Dhaka, Bangladesh

- Started as an intern (Jan 2019 - Apr 2019) and transitioned to a full-time role due to strong performance.
- worked on Hospital Management ERP for large-scale data handling for both web and mobile apps.
- Provided real-time client support to bug fixes for live systems all across the world.
- Designed and implemented robust backend functions for multi-level user access and customization based on client needs.
- **Frequently used tools:** Codeigniter, Django, Laravel, MongoDB, MySQL, Azure, Apache

EDUCATION

Oakland University *September 2022 - Present*
PhD Student, Department of Computer Science and Informatics Rochester Hills, USA
CGPA: 4.00 / 4.00

North South University *January 2014-August 2018*
Bachelor of Science in Computer Science and Engineering Dhaka, Bangladesh
CGPA: 3.44 / 4.00

RESEARCH INTEREST

Deep Learning, Edge Computing, Model Optimizations, Connected Health, Autonomous Vehicles

PUBLICATIONS

[C.1] Yunge Li, **Shaibal Saha**, Lanyu Xu (2024). The Architectural Implications of Multi-modal Detection Models for Autonomous Driving Systems. In *IEEE International Conference on Mobility: Operations, Services, and Technologies 2024 (MOST 2024)*, DOI: 10.1109/MOST60774.2024.00030o

[C.2] Ronald Tudu, **Shaibal Saha** , Prasun Nandy Pritam and Rajesh Palit (2018). Performance Analysis of Supervised Machine Learning Approaches for Bengali Text Categorization. In *2018 5th IEEE Asia-Pacific World Congress on Computer Science and Engineering (APWC on CSE)*, DOI: 10.1109/APWConCSE.2018.00043

SKILLS

- **Programming Languages:**   **[Expert]** Python, PHP, VHDL
  [Moderate] C, C++, Javascript

- **Tools:** Jupyter, PyTorch, TensorFlow, TensorRT, Pandas, Monai, NumPy, Scikit-learn, Vaitrace

- **Hardware used:** GPU, Xilinx ZCU104 MPSoC, Jetson Nano, NVIDIA Jetson AGX Xavier

- **Other Technologies:** Vitis-AI, Intel Quartus, Vivado Design suite, Microsoft Azure, Apache, AWS

- **Web Technologies:** Django, Codeigniter, Laravel, CSS, HTML

- **Database Systems:** MySQL, NoSQL(MongoDB), Oracle

- **Completed Courses:** Advanced Data Structure and Algorithms, Computer Architecture, Database System, Cloud Computing, Embedded System Design Using FPGAs, Component-based software engineering.

PROFESSIONAL SERVICES

- Reviewer of Journal of Ambient Intelligence and Smart Environment [2023-Present]

- Reviewer of 4th Workshop on Multi-lingual Representation Learning [2024]

HONORS AND AWARDS

- NSF Student Travel Award for attending IEEE MOST 2024

- Bangladesh-Sweden Trust Fund (BSTF)- Travel Grant 2023

- NSF Student Travel Award for attending IEEE/ACM SEC 2023

- NSF Student Travel Award for attending IEEE/ACM CHASE 2023

- Oakland University Provost Graduate Student Research Award grant - Spring 2023

- Selected for university special scholarship at the undergraduate for maintaining good result

- Government Scholarship for junior and Secondary level

LEADERSHIP EXPERIENCE

- **ACM Student Chapter** *September 2024 - Present*
  Oakland University [President]

- **ACM Student Chapter** *September 2023 - August 2024*
  Oakland University [Treasurer]

PROFESSIONAL MEMBERSHIPS

- **ACM Student Membership**, Membership ID: 9727002   *March 2023 - Present*
- **IEEE Graduate Student Member**, Membership ID: 99950844   *December 2023 - Present*
- **IEEE Young Professionals**, Membership ID: 99950844   *December 2023 - Present*

ADDITIONAL INFORMATION

Languages: English (Fluent), Bangla (Native), Hindi (Professional)
Interests: Cricket, Traveling, Historical and Cultural Documentary.