MD Iftakharul Islam

Staff Engineer,
Samsung Austin Semiconductor,
Samsung Advanced Computing Labs (ACL),
San Jose, CA.

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Palo Alto, CA.

EDUCATION

Ph.D. Computer Science, Kent State University, Kent, OH, USA. (Date received: 08/20/2022)

B.Sc. Computer Science and Engineering, BUET, Dhaka, Bangladesh (Date received: 01/06/2008).

PHD DISSERTATION

An IPv6 Routing Table Lookup Algorithm in Software and ASIC by Designing a High-Level Synthesis System

RESEARCH AREAS

CGRA and GPU Compiler and Simulator

High-Level Synthesis compiler

Network Algorithms

TECHNICAL SKILLS

C++

C

WORK EXPERIENCE

Staff Engineer

Samsung Austin Semiconductor, San Jose, CA
04/03/2023 – Present

I worked on GPU functional modeling. I primarily worked on the command processor (CP) block of the GPU. There I worked on integrating RISC-V based core in CP. I also worked on other CP functionalities such as last level cache (LLC) preloading, context versioning and so on.

Software Engineer 3

Juniper Networks, Sunnyvale, CA
01/10/2022–03/27/2023

I worked on Packet forwarding software of Juniper Express ASIC. I mainly worked on packet classification algorithms (e.g. prefix match, range match, TCAM match, etc). I also worked on compiler that maps network rules to ASIC.

Graduate Assistant

Kent State University, Kent, OH
Sep 2013-Dec 2022

Taught Design Patterns and Object Oriented Programming in C++.

Software Engineer – Intern

inContact, Columbus, OH
May 2015-Aug 2015

Developed a call center simulation platform (C#).

Software Engineer - Intern

RightRez, Bloomington, IN
May 2014-Aug 2014

Developed a flight search algorithm (C#).

Senior Software Engineer

GenWeb2, Dhaka, Bangladesh
Sep 2012 – Jul 2013

Developed a 3D simulator of CNC machines (C++)

Software Engineer

KB Group, Dhaka, Bangladesh
Apr 2010 - Sep 2011

Developed ticketing systems for theaters (C++).

Software Engineer

Arista Enterprises, Dhaka, Bangladesh
Apr 2009–Mar 2010

Developed an airline ticket booking system (C#).

Software Engineer

SDSL, Dhaka, Bangladesh
Feb 2008–Mar 2009

Developed a map navigator for AfriGIS map (C#)

PUBLICATIONS

2021   MD Iftakharul Islam, Javed I Khan "C2RTL: A High-level Synthesis System for IP Lookup and Packet Classification." *IEEE 22nd International Conference on High Performance Switching and Routing (HPSR)*. Paris, France. doi:10.1109/HPSR52026.2021.9481810

2021   MD Iftakharul Islam, Javed I Khan "CP-Trie: Cumulative PopCount based Trie for IPv6 Routing Table Lookup in Software and ASIC." *IEEE 22nd International Conference on High Performance Switching and Routing (HPSR)*. Paris, France. doi:10.1109/HPSR52026.2021.9481816

2019	<u>MD Iftakharul Islam</u>, Javed I Khan "SAIL based FIB lookup in a programmable pipeline based Linux router." *IEEE 20th International Conference on High Performance Switching and Routing (HPSR)*. Xi'an, China. doi:10.1109/HPSR.2019.8808129
2019	<u>MD Iftakharul Islam</u>, Javed I Khan "Leveraging Domino to implement RCP in a stateful programmable pipeline." *IEEE 20th International Conference on High Performance Switching and Routing (HPSR)*. Xi'an, China. doi:10.1109/HPSR.2019.8808107
2017	<u>MD Iftakharul Islam</u>, Javed I Khan "A network-centric TCP for interactive video delivery networks (VDN)." *IEEE 25th International Conference on Network Protocols (ICNP) Workshop PVE-SDN*. Toronto, ON, Canada. doi:10.1109/ICNP.2017.8117596
2015	<u>MD Iftakharul Islam</u>, Javed I Khan "Video splicing techniques for P2P video streaming." *IEEE 35th International Conference on Distributed Computing Systems (ICDCS) Workshops*. Columbus, OH, USA. doi:10.1109/ICDCSW.2015.23
2009	<u>MD Iftakharul Islam</u>, Md Mostofa Akbar "Heuristic algorithm of the multiple-choice multidimensional knapsack problem (MMKP) for cluster computing." *12th International Conference on Computers and Information Technology (ICCIT)*. Dhaka, Bangladesh. doi:10.1109/ICCIT.2009.5407147

SERVICE

Academic Journal Peer Review

IEEE Transaction on Networking (ToN)

IEEE Journal of Selected Area of Communication (JSAC)

Journal of Parallel and Distributed Computing (JPDC)