MD I. ISLAM

Computer Science Major

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EDUCATION

Kent State University
PhD in Computer Science

📅 Aug 2013 – Dec 2021   📍 Kent, OH

- GPA: 3.82/4.0
- Thesis: Routing table lookup algorithms in software and ASIC

BUET
Bachelors in Computer Science and Engineering

📅 Aug 2003 – Dec 2008   📍 Dhaka, Bangladesh

- GPA: 3.45/4.0

TECHNICAL SKILLS

C | Router Architecture | High Level Synthesis | Linux Kernel
C++ | Java | C# | Python | Verilog | HTML/CSS
JavaScript

PROJECTS

Routing Table Lookup in Software and ASIC
- Developed Trie based routing table lookup algorithms in C and ASIC.
- Evaluated the algorithms with routes from real core routers.

C2RTL: A High-level Synthesis tool
- Developed a high-level synthesis tool that can generate Verilog for pipelined ASIC from C code.
- Implemented several routing table lookup and packet classification algorithms in C2RTL.

Router assisted congestion control
- Developed several router assisted congestion control such as XCP, RCP and NC-TCP in Linux kernel.
- Evaluated the protocols using Mininet and a GStreamer based video streaming application.

PUBLICATIONS

- <u>MD Iftakharul Islam</u>, Javed I Khan "CP-Trie: Cumulative Pop-Count based Trie for IPv6 Routing Table Lookup in Software and ASIC." IEEE HPSR, 2021.
- <u>MD Iftakharul Islam</u>, Javed I Khan "C2RTL: A High-level Synthesis System for IP Lookup and Packet Classification." IEEE HPSR, 2021.
- <u>MD Iftakharul Islam</u>, Javed I Khan "SAIL Based FIB Lookup in a Programmable Pipeline Based Linux Router." IEEE HPSR, 2019.
- <u>MD Iftakharul Islam</u>, Javed I Khan "Leveraging Domino to Implement RCP in a Stateful Programmable Pipeline." IEEE HPSR, 2019.
- <u>MD Iftakharul Islam</u>, Javed I Khan "A Network-centric TCP for Interactive Video Delivery Networks (VDN)." IEEE ICNP Workshop PVE-SDN, 2017.

EXPERIENCE

Graduate Assistant
Kent State University

📅 Sep 2013 – Present   📍 Kent, OH

- Develop routing table lookup algorithms (C)
- Develop a high-level synthesis tool (C).
- Develop a router-centric congestion control (C, Python).
- Teaching Data Structures and Design Pattern (C++).

Software Engineer - Intern
inConatact

📅 May 2015 – Aug 2015   📍 Columbus, OH

- Develop a call center simulation platform (C#).

Software Engineer - Intern
RightRez

📅 May 2014 – Aug 2014   📍 Bloomington, IN

- Develop a flight search (BFS and A* search) in a graph of 3 million flight routes (C#).

Senior Software Engineer
GenWeb2

📅 Sep 2012 – Jul 2013   📍 Dhaka, Bangladesh

- Develop a 3D simulator of a CNC machine (C++, Qt)

Software Engineer
KB Group

📅 Apr 2010 – Sep 2011   📍 Dhaka, Bangladesh

- Develop ticketing systems for box offices (C++, COM, Classic ASP, SQL Server).

Software Engineer
Arista Enterprises

📅 Apr 2009 – Mar 2010   📍 Dhaka, Bangladesh

- Develop an airline ticket booking system (C#, SQL Server).

Software Engineer
SDSL

📅 Feb 2008 – Mar 2009   📍 Dhaka, Bangladesh

- Develop a map navigator for AfriGIS map (J2ME).