

## MD Iftakharul Islam

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### EDUCATION

*PhD*, Computer Science (expected in 2020)  
Kent State University, Kent, OH, USA. GPA 3.82  
*Bachelor of Science*, Computer Science and Engineering (Jan 2008)  
Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

### PROGRAMMING SKILLS

C; C++; Java; C#; Python; Shell Script; Verilog; HTML; CSS; JavaScript

### OPEN SOURCE PROJECTS

Linux Kernel, Alladin (an ASIC simulator), Mininet (Network emulator), GStreamer

### PROFESSIONAL EXPERIENCE

*Graduate Assistant, Kent State University*  
Kent, OH, USA (Sep, 2013 - present)

- Developed a new routing table lookup algorithm and several existing best performing algorithms such as Poptrie and SAIL. Implemented them as a stand-alone application, inside ASIC simulator and inside Linux kernel (in C). Evaluated the algorithms with the routing tables from real core routers.
- Implemented power and area calculation in Aladdin (an ASIC simulator) where logic gates are not shared across pipeline stages.
- Implemented a router-assisted TCP in Linux kernel where TCP sending rate is calculated based on the explicit feedback from router (in C). The router-assisted TCP performs better than delay-based congestion control (currently used in Google Hangout) for video conferencing.
- Implemented RCP protocol for network processor based routers using Linux eBPF (in C).
- Implemented RCP protocol in a router data plane using Domino (in C).
- Developed a GStreamer based video streaming application (in C).
- Developed several experimental network topologies using Mininet (Python).

*Software Development Intern, inConatact*  
Columbus, OH, USA (May, 2015 - Aug, 2015)

- Implemented a call dispatching mechanism of call centers where incoming calls are assigned to agents based on various criteria and skill metrics of the agents.(C#)
- Implemented an interval tree to make an call assignment efficient instead of searching all the agents.

*Software Development Intern, RightRez*  
Bloomington, IN, USA (May, 2014 - Aug, 2014)

- Implemented a flight search (BFS and A\* search) in a graph of 3 million flight routes (C#)
- Implemented several heuristics that reduced that searching time from 30 minutes to few seconds.
- Integrated Sabre webservice to implement seat map for airlines. (C#)

*Senior Software Engineer, GenWeb2*  
Dhaka, Bangladesh (Sep, 2012 - Jul, 2013)

- Implemented a 3D simulator of a CNC machine. (C++, OpenGL, Qt)
- Calculated the minimum number of points to draw an arc based on the arc length. It reduced the CPU and memory consumption by almost 90%
- Developed a backend of a mobile application that is used for charging electric cars. (Java, PostgreSQL)

*Software Engineer, KB Group*

Dhaka, Bangladesh (Apr, 2010 - Sep, 2011)

- Integrated payment gateways to KB Group e-commerce and box office applications. (C++, COM, Classic ASP, SQL Server).
- Implemented an end-to-end box office ticketing system. (C#, SQL Server)

*Software Engineer, Arista Enterprises*

Dhaka, Bangladesh (Apr, 2009 - Mar, 2010)

- Implemented an end-to-end airline ticket booking system (C#, ASP.NET, SQL Server, HTML, CSS, JavaScript).

*Software Engineer, SDSL*

Dhaka, Bangladesh (Feb, 2008 - Mar, 2009)

- Developed a map navigator for feature phones and windows mobile with AfriGIS map. Worked on zooming, panning and caching of map tiles and data. (J2ME, C#).

## PUBLICATIONS

- **MD Iftakharul Islam**, Javed I Khan "SAIL Based FIB Lookup in a Programmable Pipeline Based Linux Router." IEEE High Performance Switching and Routing (HPSR), 2019.
- **MD Iftakharul Islam**, Javed I Khan "Leveraging Domino to Implement RCP in a Stateful Programmable Pipeline." IEEE High Performance Switching and Routing (HPSR), 2019.
- **MD Iftakharul Islam**, Javed I Khan "A Network-centric TCP for Interactive Video Delivery Networks (VDN)." IEEE International Conference on Network Protocols (ICNP), 2017.
- **MD Iftakharul Islam**, Javed I Khan "Video Splicing Techniques for P2P Video Streaming." IEEE ICDCS workshop on Computer and Networking Experimental Research using Testbeds (CNERT), 2015.

## SERVICES

- Reviewer of IEEE Journal of Selected Area of Communication (JSAC).
- Reviewer of Computer Networks, Elsevier.
- Shadow reviewer of Network and Computer Applications, Elsevier.