MD Iftakharul Islam (Tamim)

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EDUCATION

PhD, Computer Science (expected in 2020)
Kent State University, Kent, OH, USA. GPA 3.82

BSc, Computer Science and Engineering (Jan 2008)
Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

PROGRAMMING SKILLS

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

OPEN SOURCE PROJECTS

Linux Kernel, Bambu (High-level synthesis), OpenROAD (EDA), Mininet (Network emulator), GStreamer

WORK 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)

- Implemented an end-to-end ticketing system for box offices. (C#, SQL Server)
- Integrated payment gateways to e-commerce and box office applications. (C++, COM, Classic ASP, 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.
- TPC member of International Journal of Computing and Digital Systems
- TPC member of International Journal of Reconfigurable and Embedded Systems

Teaching

- Lab instructor for CS-III (Programming Pattern) from 2017-2020
- Lab instructor for CS-I (Procedural and Object-Oriented Programming) from 2016-2017