

# MD I. Islam (Tamim)

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🔗 <https://tamimcse.github.io/>

🔗 <https://leetcode.com/tamimcse/>

## EDUCATION

### Kent State University PhD in Computer Science

📅 Aug 2013 – Aug 2022 📍 Kent, OH

- Research area: High-level Synthesis; Network Algorithms

### BUET

### Bachelors in Computer Science and Engineering

📅 Aug 2003 – Dec 2008 📍 Dhaka, Bangladesh

## TECHNICAL SKILLS

C++

C

High-Level Synthesis

Network Algorithms

Linux Kernel

## CURRENT INTEREST

Compiler for hardware accelerators

High-Level Synthesis

Electronic Design Automation (EDA)

FPGA

## PROJECTS

### C2RTL: A High-level Synthesis tool

- Developed a high-level synthesis tool, C2RTL that can generate synthesizable Verilog RTL for pipelined ASIC from C code.
- It was designed as a GCC plugin. It takes intermediate code (produced by GCC) as an input and generates control and data-flow graph (CDFG) for that. It then performs scheduling and MUX tree generation before producing the Verilog code.

### CP-Trie: Routing Table Lookup in Software and ASIC

- Developed several bitmap based Trie (CP-Trie, Poptrie and SAIL) for IPv6 routing table lookup algorithms in C and ASIC.
- Evaluated the algorithms with routes from real core routers.

### NC-TCP: A congestion control in Linux kernel

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

## SELECTED PUBLICATIONS

- [MD Iftakharul Islam, Javed I Khan](#) "CP-Trie: Cumulative Pop-Count based Trie for IPv6 Routing Table Lookup in Software and ASIC." IEEE HPSR, 2021.
- [MD Iftakharul Islam, Javed I Khan](#) "C2RTL: A High-level Synthesis System for IP Lookup and Packet Classification." IEEE HPSR, 2021.
- [MD Iftakharul Islam, Javed I Khan](#) "A Network-centric TCP for Interactive Video Delivery Networks (VDN)." IEEE ICNP Workshop PVE-SDN, 2017.

## WORK EXPERIENCE

### Software Engineer 3

#### Juniper Networks

📅 Jan 2022 – Present 📍 Sunnyvale, CA

- Working on packet classification software of Juniper Express ASIC (C++).

### Graduate Assistant

#### Kent State University

📅 Sep 2013 – Dec 2022 📍 Kent, OH

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

### Software Engineer - Intern

#### inConatact

📅 May 2015 – Aug 2019 📍 Columbus, OH

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

### Software Engineer - Intern

#### RightRez

📅 May 2014 – Aug 2019 📍 Bloomington, IN

- Developed a flight search algorithm (C#).

### Senior Software Engineer

#### GenWeb2

📅 Sep 2012 – Jul 2013 📍 Dhaka, Bangladesh

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

### Software Engineer

#### KB Group

📅 Apr 2010 – Sep 2011 📍 Dhaka, Bangladesh

- Developed ticketing systems for theaters (C++).

### Software Engineer

#### Arista Enterprises

📅 Apr 2009 – Mar 2010 📍 Dhaka, Bangladesh

- Developed an airline ticket booking system (C#).

### Software Engineer

#### SDSL

📅 Feb 2008 – Mar 2009 📍 Dhaka, Bangladesh

- Developed a map navigator for AfriGIS map (C#)