# 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

# EXPERIENCE

### Graduate Assistant
**Kent State University**

📅 Sep 2013 – Present    📍 Kent, OH

- Develop routing table lookup algorithms for software and ASIC
- Develop a high-level synthesis tool to generate Verilog from C
- Teaching Data Structures and Design Pattern.

### Software Engineer - Intern
**inConatact**

📅 May 2015 – Aug 2015    📍 Columbus, OH

- Develop a call center simulation platform.

### 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.

### Senior Software Engineer
**GenWeb2**

📅 Sep 2012 – Jul 2013    📍 Dhaka, Bangladesh

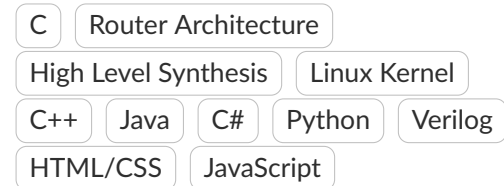- Develop a 3D simulator of a CNC machine

### Software Engineer
**KB Group**

📅 Apr 2010 – Sep 2011    📍 Dhaka, Bangladesh

- Develop ticketing systems for box offices.

# TECHNICAL SKILLS

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

# PROJECTS

### Genetic Algorithm for Code Golf Music

- Synthesizing Music Information Retrieval (MIR) and genetic algorithms to discover and improve short, music generating lines of C code.
- Implementing the model using a similar approach to the Ramanujan Machine.

### HealthHub

- Designing and developing an electronic health records system focusing on aiding and assisting patients as well as providing a smoother data management experience for healthcare personnel (e.g. Physicians, Nurses, etc.).

### Pitch Detection and Synthesis

- Developed an MIR algorithm to detect pitches in .mp3 files, reproduce them in MIDI, and synthesize them using custom wave formats.
- Used real-time signal processing to visualize the outputs generated by the algorithm.

### Booking Website

- Designed and developed a flight booking website from scratch, providing multiple services to both end-consumers and airlines.
- Implemented the website using Python, Flask, SQL, JS and HTML/Bootstrap/CSS.

### Automated Performance Reporting System

- Solely developed a program to automatically generate quarterly performance reports for Arch Global Advisors, scraping the web to get historical stock price data, dividend data, and earnings release dates.
- Ultimately cut the firm's reporting process from days to minutes.

# PUBLICATIONS

- MD Iftakharul Islam, Javed I Khan "SAIL Based FIB Lookup in a Programmable Pipeline Based Linux Router." IEEE HPSR, 2019.
- MD Iftakharul Islam, Javed I Khan "Leveraging Domino to Implement RCP in a Stateful Programmable Pipeline." IEEE HPSR, 2019.
- MD Iftakharul Islam, Javed I Khan "A Network-centric TCP for Interactive Video Delivery Networks (VDN)." IEEE ICNP Workshop PVE-SDN, 2017.

## Software Engineer

**Arista Enterprises**

📅 Apr 2009 – Mar 2010        📍 Dhaka, Bangladesh

- Develop an airline ticket booking system.

## Software Engineer

**SDSL**

📅 Feb 2008 – Mar 2009        📍 Dhaka, Bangladesh

- Develop a map navigator for AfriGIS map