

# Ashraful Islam

ashrafulrafi@gmail.com — (929) 421-8226 — Birmingham, AL, USA  
github.com/ashraful-islam-rafi — linkedin.com/in/ashraful-islam-rafi — ashraful-islam-rafi.github.io

## EDUCATION

---

### University of Alabama at Birmingham

Master of Science in Computer Science, GPA: 3.80/4.00

Alabama, USA

Jan 2022 - Dec 2024

### Leading University

Bachelor of Science in Computer Science and Engineering, GPA: 3.30/4.00

Sylhet, Bangladesh

Aug 2009 - Aug 2013

## SKILLS

---

**Languages:** Python, Java, C++, PHP, JavaScript, Racket

**Databases & Frameworks:** MySQL, MongoDB, Apache Solr, T-SQL, NoSQL, Spring Boot, CodeIgniter, WordPress

**Technologies:** RESTful API, Web Scraping/Crawling (Scrapy, Jsoup), AJAX, HTML5, CSS3, Bootstrap3

**Tools & Platforms:** Git, Docker, AWS, Google Cloud, CI/CD, Jira, Maven

**Methodologies:** SDLC, MVC, Agile, Scrum, Unit Testing

## EXPERIENCE

---

### University of Alabama at Birmingham

Graduate Research Assistant

Alabama, USA

Jan 2022 - Aug 2024

- Brouhaha (Research Compiler): Led a team of three to develop Brouhaha, achieving 3x faster runtime than Chicken and Guile on specific benchmarks using control flow analysis (k-CFA) to detect function inlining opportunities. [Github]
- Survey: Reviewed 120+ academic papers and books on Functional Compilation & Program Analysis, creating a 30-page report with insights from top journals like POPL, PLDI, ICFP, and OOPSLA. [Link]
- Compiler: Wrote a functional compiler in Racket that translates minimal **Racket** code into **C++**. [Github]

### Bangla Search Engine (Pipilika)

Software Engineer

Sylhet, Bangladesh

Aug 2017 - Mar 2021

- Enhanced keyword-based search relevancy by 35% through redesign of Apache Solr schema and advanced query boosting techniques
- Developed scalable crawlers and parsers using Scrapy and Jsoup to extract data from over 40,000 websites, boosting indexed data by 18% and enhancing search capabilities.
- Wrote RESTful API using Spring Boot to provide domain-specific time series data, improving reporting capabilities and reducing the debugging time by 20%.
- Implemented TIG (Telegraf, InfluxDB, Grafana) stack for real-time infrastructure monitoring, reducing downtime by 15% through proactive issue detection.

### Southeast University

Programmer

Dhaka, Bangladesh

Apr 2015 - Aug 2017

- Led the IT department for over 3 months, overseeing all operations and ensuring effective technology solutions across the organization.
- Developed an Online Admission System using PHP, MySQL, and Bootstrap3, driving 25% of total admissions.
- Reduced University Support System software report generation time by 30% through MySQL schema redesign.
- Coordinated and monitored vendor company in developing Human Resources Management System (HRMS) software.

### IT Lab Solutions Ltd

Software Developer

Sylhet, Bangladesh

Sep 2013 - Dec 2014

- Developed web-based shop management software for over 5 businesses using CodeIgniter, MySQL, and Bootstrap3.

## EXTRACURRICULAR / ACTIVITIES

---

**Judge:** UAB Summer Undergraduate Research Expo, 2023

**Treasurer:** Bangladesh Student Association (BSA), 2022-23