

# Ashraful Islam

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## EDUCATION

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### 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

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**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), ETL/ELT, AJAX, HTML5, CSS3, Bootstrap3

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

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

## EXPERIENCE

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### University of Alabama at Birmingham

Graduate Research Assistant

Alabama, USA

Jan 2022 - Aug 2024

- **Brouhaha (Prototype Research Compiler):** Led a team of three students in developing Brouhaha, which outperforms other compilers like Chicken and Guile, achieving 3x better running times for certain benchmarks. This performance primarily results from performing 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

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

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