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 — Alabama, USA
Master of Science in Computer Science, GPA: 3.80/4.00 — Jan 2022 - Dec 2024

Leading University — Sylhet, Bangladesh
Bachelor of Science in Computer Science and Engineering, GPA: 3.30/4.00 — Aug 2009 - Aug 2013

EXPERIENCE

University of Alabama at Birmingham — Alabama, USA
Graduate Research Assistant — 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 and 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 generates C++ code for a minimal Racket-like language. [Github]

Bangla Search Engine (Pipilika) — Sylhet, Bangladesh
Software Engineer — Aug 2017 - Mar 2021

- Enhanced keyword-based search relevancy by 35% through redesigning the Apache Solr schema and implementing 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 — Dhaka, Bangladesh
Programmer — Apr 2015 - Aug 2017

- Oversaw all IT department operations as an Interim Manager for three months.
- 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 — Sylhet, Bangladesh
Software Developer — Sep 2013 - Dec 2014

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

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, C++, PHP, JavaScript, Racket
- **Database Technologies:** MySQL, MongoDB, Apache Solr, T-SQL, NoSQL
- **Frameworks & Libraries:** Spring Boot, React, WordPress, CodeIgniter, Bootstrap3, AJAX, jQuery
- **Web Technologies:** RESTful APIs, Postman, HTML5, CSS3, Web Scraping/Crawling (Scrapy, Jsoup)
- **Project Management & Methodologies:** Agile, Scrum, SDLC, MVC, Unit Testing (Pytest, Junit), JIRA
- **DevOps & Environments:** Git, Docker, AWS (S3, EC2, Lambda), Linux, CI/CD, Maven, Bash, Command Line

EXTRACURRICULAR

- **Judge**: UAB Summer Undergraduate Research Expo, 2023
- **Treasurer**: Bangladesh Student Association (BSA) at UAB, 2022-23
- **Programming Tutor**: Leading University Computer Club, 2012-13