Ashraful Islam

ashrafulrafi@gmail.com — (929) 421-8226 — Birmingham, AL, USA (Open to relocation)

github.com/ashraful-islam-rafi — linkedin.com/in/ashraful-islam-rafi — ashraful-islam-rafi.github.io

Graduating December 2024 — Available for full-time employment starting January 13, 2025

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

- Led a team of three to develop Brouhaha (Research Compiler), improving compilation times through flow-directed inlining based on control-flow analysis (CFA) and advanced local optimizations. [Github]
- Developed a functional compiler translating a minimal Racket-like language to C++, ensuring identical outputs. [Github]
- Deployed Docker containers with CMake builds, ensuring cross-platform compatibility across Linux, Windows, and MacOS.
- Reviewed over 120 papers on Functional Compilation and Program Analysis, summarizing insights from top journals (POPL, PLDI, ICFP) in a 30-page report. [Link]

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 IT department operations as an Interim Manager for three months, implementing effective technology solutions that improved departmental efficiency.
- Developed an Online Admission System using PHP, MySQL, and Bootstrap3, driving 25% of total admissions.
- Reduced report generation time by 30% in the University Support System (USS) through MySQL schema redesign.
- Supervised a vendor in developing a timely Human Resources Management System that met university requirements.

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, providing solutions for inventory, sales, and reporting.

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, C++, PHP, JavaScript, Racket
- **Database Technologies:** MySQL (RDBMS), MongoDB (NoSQL), Apache Solr (NoSQL)
- **Frameworks & Libraries:** Spring Boot, React, WordPress, CodeIgniter, Bootstrap3, AJAX, jQuery
- **DS & ML Libraries:** NumPy, Pandas, Scikit-learn, SciPy, Matplotlib, Seaborn, TensorFlow, PyTorch
- **Web Technologies:** RESTful APIs, Postman, HTML5, CSS3, JSON, Web Scraping/Crawling (Scrapy, Jsoup)
- **DevOps:** Git, Docker, AWS (S3, EC2, Lambda, SNS), Linux, CI/CD, Maven, Bash, OpenMPI, CMake
- **Project Management & Methodologies:** Agile, Scrum, SDLC, MVC, Unit Testing (Pytest, Junit), JIRA