

Ashraful Islam

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Python, Java, C++, PHP, Racket, JavaScript

Summary

Computer Science graduate student at the University of Alabama at Birmingham (UAB) with over 2 years of academic research experience and more than 7 years of software development experience.

Education

University of Alabama at Birmingham | Alabama, USA

Jan 2022 - Dec 2024

- MS in Computer Science

GPA: 3.80/4.00

Experience

Graduate Research Assistant | University of Alabama at Birmingham | 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 Link: <https://github.com/harp-lab/brouhaha>
- Compiler:** Wrote a functional compiler in Racket that translates minimal Racket code into C++.
Github Link: <https://github.com/ashraful-islam-rafi/compiler>

Software Engineer | Bangla Search Engine (Pipilika) | Sylhet, Bangladesh

Aug 2017 - Mar 2021

- Search Relevancy Improvement:** Enhanced keyword-based search relevancy by 35% through redesigning the Apache Solr schema, extracting Bangla Unicode data, and implementing Solr's dismax query parser.
- Large-Scale Data Search Portal:** Developed a generic approach using Scrapy to crawl, parse, and index unstructured data from over 40,000 websites, boosting indexed data by 18% and enhancing search capabilities.
- Solr Analytic Library:** Wrote RESTful API using Spring Boot to provide domain-specific time series data for Solr projects, improving reporting capabilities and reducing the debugging time by 20%.
- TIG Stack Deployment:** Implemented TIG (Telegraf, InfluxDB, Grafana) Stack on Pipilika's server for real-time infrastructure monitoring, reducing downtime through proactive issue detection.

Programmer | Southeast University | Dhaka, Bangladesh

Apr 2015 - Aug 2017

- Served over 3 months as the in-charge of the Information Technology (IT) department, managing all IT operations and ensuring efficient and effective technology solutions across the organization.
- Introduced an Online Admission System using PHP, MySQL, and Bootstrap3, contributing to 25% of total admissions.
- Improved the University Support System software report generation time by 30% by redesigning the MySQL schema.
- Coordinated and monitored vendor company in developing Human Resources Management System (HRMS) software.

Software Developer | IT Lab Solutions Ltd | Sylhet, Bangladesh

Sep 2013 - Dec 2014

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

Skills

- Programming Languages:** Python, Java, C++, PHP, Racket, JavaScript.
- Databases:** MySQL, MongoDB, Apache Solr
- Frameworks/Technologies/Tools/Methodologies:** Spring Boot, Bootstrap3, CodeIgniter, RESTful API, Jsoup, Scrapy, AJAX, HTML5, CSS3, Git, Docker, AWS, WordPress, SDLC, STLC, MVC, Agile, Scrum, Jira, Unit Testing

Extracurricular / Activities

- Served as a Judge for the Summer 2023 Undergraduate Research Expo at UAB, evaluating student research projects.
- Acted as Treasurer for the Bangladesh Student Association at UAB (2022-23), overseeing finances and budgeting.