

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 over 7 years of industry experience taking on roles such as Software Engineer, and Programmer.

Education

University of Alabama at Birmingham | Alabama, USA

Jan 2022 - Dec 2024

- M.S. in Computer Science

Leading University | Sylhet, Bangladesh

Aug 2009 - Aug 2013

- B.S. In Computer Science & Engineering

Experience

Graduate Research Assistant | UAB | Alabama, USA

Jan 2022 - August 2024

- Brouhaha (Prototype Research Compiler): Led a team of three students in developing Brouhaha, which currently 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.
- Compiler: Wrote a functional compiler in **Racket** that translates minimal Racket code into **C++**.

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%.

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

- Designed and developed customized web-based Shop Management software for over 5 different businesses using **CodeIgniter** and **Bootstrap3** with **MySQL** as the database.

Skills

- Programming Languages: Python, Java, C, C++, PHP, Racket, JavaScript.
- Databases/Frameworks/Technologies: Spring Boot, REST API, Jsoup, Scrapy, Bootstrap3, Codeigniter, AJAX, MySQL, MongoDB, Apache Solr, HTML5, CSS3, Git, Docker, AWS, Maven, WordPress, SDLC, STLC, MVC, Agile, Scrum.

Extracurricular / Activities

- Judge: Served as a judge of the Summer 2023 Undergraduate Research Expo, UAB.
- Treasurer: Managed financial operations of the Bangladesh Student Association, a graduate student organization at UAB.
- Tutor: Conducted over 15 programming workshops focused on Data Structures and Algorithms at Leading University.