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*

- 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](#)
- Compiler: Wrote a functional compiler in **Racket** that translates minimal Racket code into **C++**. [Github Link](#)

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

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.