

Ashrafur Islam

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EXPERIENCE

The University of Alabama in Huntsville

Alabama, USA

Software Developer II

Feb 2025 - Present

- Design, develop, and enhance enterprise applications, integrate software solutions, and automate workflows to improve system efficiency.

University of Alabama at Birmingham

Alabama, USA

Graduate Research Assistant

Jan 2022 - Aug 2024

- Led a team of three to develop Brouhaha, a Racket-to-C++ compiler, optimizing compilation speed with advanced inlining techniques and control-flow-driven performance improvements. [Github]
- Used Git, Docker, and CMake to build and deploy Brouhaha, ensuring compatibility across Linux, Windows, and macOS.
- Wrote Python scripts to automate testing for Brouhaha, improving validation accuracy and debugging efficiency.
- Reviewed over 120 research papers to extract insights on software optimization techniques and applied findings to improve compiler performance. [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 query-boosting techniques.
- Built scalable crawlers and parsers with Python and Java to extract data from over 40,000 websites, increasing indexed data by 18% and improving search functionality.
- Developed multiple RESTful APIs with Spring Boot for data processing, reporting, and integration, enhancing system performance and usability.
- Deployed the TIG stack (Telegraf, InfluxDB, Grafana) for real-time infrastructure monitoring, cutting downtime by 15% through proactive issue detection.

Southeast University

Dhaka, Bangladesh

Programmer

Apr 2015 - Aug 2017

- Developed an online admission system using PHP, MySQL, and Bootstrap3, increasing admissions by 25%.
- Optimized the University Support System by redesigning the MySQL schema, reducing report generation time by 30%.
- Supervised a vendor to deliver a Human Resources Management System on time, meeting university requirements.
- Acted as Interim IT Manager for over three months, overseeing daily operations and ensuring uninterrupted services across all functions.

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
- **Databases:** MySQL (RDBMS), MongoDB (NoSQL), Apache Solr (NoSQL)
- **Frameworks & Libraries:** Spring Boot, React, WordPress, CodeIgniter, Bootstrap, AJAX, jQuery
- **DS & ML Libraries:** NumPy, Pandas, Scikit-learn, SciPy, Matplotlib, Seaborn, TensorFlow, PyTorch
- **Web Development:** RESTful APIs, Postman, HTML5, CSS3, JSON, Web Scraping (Scrapy, Jsoup)
- **Project Management & Methodologies:** Agile, Scrum, SDLC, MVC, Unit Testing (Pytest, Junit), JIRA
- **DevOps:** Git, Docker, AWS (S3, EC2, Lambda, SNS), Linux, CI/CD, Maven, Bash, OpenMPI, CMake, Tomcat, LAMP

EDUCATION

University of Alabama at Birmingham

Alabama, USA

Master of Science in Computer Science, GPA: 3.80/4.00

Jan 2022 - Dec 2024