

MD MAHIR ASEF KABIR

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CAREER SUMMARY

Highly motivated Ph.D. student with 3.5 years of Software Engineering experience. Currently enrolled in the Computer Science program at Virginia Tech, USA. Working on research areas of Software Engineering, Software Security, & Programming Languages. Have sound experience of creating scalable backend APIs for desktop & web applications. Skilled in competitive problem solving using optimized algorithms & data structures.

EDUCATION

PhD Student, Department of Computer Science *August 2019 - (Expected) May 2024*
Virginia Tech, Blacksburg, Virginia, USA

BS, Department of Computer Science & Engineering *Oct 2011 - Jan 2016*
Ahsanullah University of Science and Technology, Dhaka, Bangladesh

TECHNICAL SKILLS

Programming Languages	C, C++, Java, C#, JavaScript, Python
Libraries & Frameworks	Entity framework, jQuery, Fabric.js
Database Management Systems	MySQL, Microsoft SQL Server
Source Controls	TFS, SVN, Git

RELEVANT WORK EXPERIENCE

Software Engineer, Enosis Solutions, Dhaka *Nov 2015 - Aug 2019*
Project: Treeno Software

- Enhanced features of Treeno Document Management System, using **.NET & jQuery**, to **create admin panel** and user grouping
- Developed Treeno API, using **.NET Core & MS SQL Server**, to **segregate backend** code and to **reduce lines** of code by **60%**
- **Improved code quality** of Treeno API, using **Dependency Injection & Generic Methods**, to reduce server communication by **50%**

Project: Insightformation

- Built features of InsightVision workflow management application, using ASP.NET MVC, Entity Framework & Fabric.js, to introduce **workflow diagram designing tool**

TECHNICAL RESEARCH PROJECTS

Detection of Java Projects' Metadata Related Bugs *Ongoing*

- Creating an external domain specific language from scratch (writing grammar syntax, generating parser, & developing language engine) to detect Java project's metadata related bugs
- Prepared 15 different patterns of metadata related bugs

Usage investigation of NPM package-related best practices *Aug 2022*

- Investigated how securely developers follow security related best practices for NPM packages
- Wrote all the data-collection related scripts (web scraping, Git accessing etc.) from scratch
- Conducted user studies by creating issues for 4 categories of best practice violations
- Published a paper in IEEE SecDev 2022: <https://ieeexplore.ieee.org/abstract/document/9973037>

Detection & Repairment of Java security-API misuses *Mar 2022*

- Worked on creating an Example-Based approach to detect & repair security-API misuses for Java
- Created Pull Requests to communicate with developers for user studies
- Published a paper in ICPC 2022: <https://dl.acm.org/doi/abs/10.1145/3524610.3527895>

Performance analysis of tools for detecting cryptographic API misuses *Feb 2022*

- Investigated how far existing tools have come to detect Java Cryptographic API misuses
- Collected GitHub data, and communicated with developers for user studies
- Published a paper in IEEE TSE 2022: <https://ieeexplore.ieee.org/document/9711933>

COMPETITIVE PROGRAMMING ACHIEVEMENTS

- **5th** in SUB Inter University Programming Contest 2016
- **15th** in **National Collegiate Programming Contest(NCPC)** at RUET, 2015
- **3rd** in IUBAT Inter University Programming Contest 2014