PRASHANTA SAHA

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EDUCATION

Doctor of Philosophy in Computer Science, Fall 2021(expected)

Montana State University (MSU), Bozeman, MT

Bachelor of Science in Computer Science and Engineering, 2012

Rajshahi University of Engineering and Technology, Rajshahi, Bangladesh

SKILLS

Programming/Scripting Languages: Java, Python, php, Javascript, Html, CSS, SQL, Powerbuilder, React Native, C, C++, R

Frameworks and tools: MySQL, MSSQL, SQLAnywhere, Realm, Eclipse, Microstrategy, Selenium, Git, Randoop, RStudio; Operating Systems: Windows, Linux, Unix

WORK EXPERIENCE

Research Assistant

Software Testing Lab, MSU, Bozeman, MT, Jan, 2016 - present

- Research area: Software Quality Assurance, Automated Software Testing using Metamorphic Testing, Test Case Generation and Minimization in Metamorphic Testing technique

Teaching Assistant

Gianforte School of Computing, MSU, Bozeman, MT, Spring semester 2019

- Course Name: Software Engineering Applications. Advised and guided students to develop a software using Agile software development methodology

Software Engineer

IQVIA (former IMSHealth), Dhaka, Bangladesh, Feb, 2013 - Dec, 2015

- Developed new features and enhanced existing features of internal project called PADDS Development (Database Viewer, Service Tool, and Data Warehouse Designer tools) and various web dashboards. (Powerbuilder, php)

PUBLICATIONS

1. **Prashanta Saha** and U. Kanewala. "Improving the Effectiveness of Automatically Generated Test Suites Using Metamorphic Testing." 5th International Workshop on Metamorphic Testing (ICSE MET 2020), Seoul, South Korea. link
2. **Prashanta Saha** and U. Kanewala. "Fault Detection Effectiveness of Metamorphic Relations Developed for Testing Supervised Classifiers." IEEE International Conference on Artificial Intelligence Testing (AITest), March 2019, San Francisco, California. link
3. **Prashanta Saha** and U. Kanewala. "Fault Detection Effectiveness of Source Test Case Generation Strategies for Metamorphic Testing." 3rd International Workshop on Metamorphic Testing (ICSE MET 2018), Gothenburg, Sweden. link

SOFTWARE PROJECTS

METTester (NSF Funded)

Software Testing Lab, MSU, Bozeman, MT

Developed a software testing tool called METTester for testing scientific software using Metamorphic testing technique (Java, Python). This tool can generate random or coverage-based test cases for a class and then identify Metamorphic Relations (MRs) for that class. Those MRs are prioritized based on their fault detection effectiveness. Finally, a test report has been generated which contains the pass/fail results of that class using Metamorphic testing. link

USMP (Unstable Slope Management Program) (FHWA Funded)

Network Lab and Software Testing Lab, MSU, Bozeman, MT

Developed an unstable slope management program (USMP) for various land and transportation management groups to manage their unstable rock and soil slopes (php, React Native). This tool can be used either online or offline. There is a web based tool as well as mobile application (Android and ios) version of this tool. This application is now live and currently being used by FHWA. WebsiteLink, play store, app store

TRAINING AND CONFERENCES

- Attended 3 months long Powerbuilder tool training at IQVIA, Bonn office in Germany and worked closely with the PADDS development team
- Participated and presented a paper at ICSE MET 2019 conference in Gothenburg, Sweden
- Participated and presented a paper at AITEST 2019 conference in San Francisco, California
- Participated and presented a paper at ICSE MET'20 conference via virtually