

# SETU KUMAR BASAK

PhD Student | Software Security | Software Development

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📍 Raleigh, NC

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## EXPERIENCE

### Graduate Student- RealSearch Lab

#### North Carolina State University

📅 Since October, 2021

- Worked on a study of technical challenges faced by developers for managing secret-containing software artifacts
- Worked on finding best practices for secret management in software artifacts
- Worked on building a benchmark dataset for secret detection tools to verify their effectiveness and efficiency
- Working on risk-based software secret management

### Teaching Assistant- Software Security

#### North Carolina State University

📅 Since January, 2022

- Assisting students to implement different security techniques in a healthcare software. Preparing material and guideline for different security tools and techniques.

### Development Lead

#### Enosis Solutions

📅 March 2021 – August 2021

- Manage total 20+ number of developers and ensure ideal career growth of the them and evaluate quarterly
- Provide training to new team members
- Project plan maintenance
- Client communication and status reporting through online meetings and email

### Senior Software Engineer

#### Enosis Solutions

📅 March 2018 – Feb 2021

- Worked on ASP.NET, Ionic and Angular frameworks
- Worked on AWS S3, AWS Lambda and AWS EC2 instance
- Requirement Analysis and Task Breakdown & Estimation
- Doing Code Review & Peer Review
- Doing sprint planning and assigning tasks to team members
- Maintain project plan and give demo to clients
- Provide training to new team members

### Software Engineer

#### Enosis Solutions

📅 May 2016 – Feb 2018

- Worked on Scala, Play framework and Apache Spark
- Worked on JavaScript frameworks like canJs, stealJs
- Worked on Redshift and mongoDB

## EDUCATION

### PhD - Computer Science

#### North Carolina State University

📅 Aug'21 – May'24(Tentative) CGPA : 4.0/4.0

### BSc. - Computer Science

#### Khulna University Of Engineering & Technology

📅 January 2012 – May 2016 CGPA : 3.9/4.0

## COURSES

- **Graduate Courses:** Software Security, Software Engineering, Experimental Statistics, Design and Analysis of Algorithms, Database Management Concepts and Systems, Natural Language Processing, Automated Software Engineering

## PROJECTS

### Denticon

- Worked on mostly all parts of the project especially insurance payment system, restorative and perio chart using ASP.NET MVC, SQL Server and Javascript.
- Converted the ASP.NET Webforms pages to ASP.NET MVC pages
- Managed the offshore development team

### Senrana

- Worked on the opportunity analysis model using Scala, Apache Spark and Redshift

### Houselens

- Worked on the upload service using ASP.NET, AWS S3 and AWS Lambda

## SKILLS

- **Languages:** C#, C++, C#, JavaScript, Scala, Python
- **Tools & Frameworks:** SAST, DAST, IAST, ASP.NET, SQL Server, Oracle 10g, MongoDB, Rest API, Apache Spark, JS frameworks
- **Research Method:** Qualitative & Quantitative analysis, Security testing, Data-driven discovery and analytic, Machine Learning

## PUBLICATIONS

- Basak, Setu Kumar, et al. "What are the Practices for Secret Management in Software Artifacts?" The IEEE Secure Development Conference (SecDev) 2022
- Basak, Setu Kumar, et al. "What Challenges Do Developers Face About Checked-in Secrets in Software Artifacts?" The International Conference on Software Engineering (ICSE) 2023
- Basak, Setu Kumar, et al. "SecretBench: A Dataset of Software Secrets" The International Conference on Mining Software Repositories (MSR) 2023
- Basak, Setu Kumar, et al. "A Comparative Study of Software Secrets Reporting by Secret Detection Tools" The International Symposium on Empirical Software Engineering and Measurement (ESEM) 2023

## REFERENCES

- Dr. Laurie Williams, Distinguished Professor, North Carolina State University; PhD advisor
- Dr. Bradley Reaves, Assistant Professor, North Carolina State University