

# Nuthan Munaiah

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<https://nuthanmunaiah.github.io/>

<b>EDUCATION</b>	<b>Ph.D. in Computing and Information Sciences</b> Rochester Institute of Technology <b>Topic</b> <u>Toward Data-Driven Discovery of Software Vulnerabilities</u> <b>Advisor</b> <u>Dr. Andrew Meneely</u> <b>B.E. in Computer Science and Engineering</b> Visveswaraiah Technological University <b>Class</b> First Class with Distinction	<b>May 2020</b> Rochester, NY, USA <b>2009</b> Belgaum, KA, IND
<b>SKILLS</b>	<b>Languages</b> Python, TypeScript, R, and SQL <b>Technologies</b> ggplot2, dplyr, scikit-learn, Nameko, Flask-RESTful, and Kubernetes (K8s) <b>Tools</b> git, vim, tmux, docker, and SLURM <b>Databases</b> PostgreSQL and MySQL	
<b>EXPERIENCE</b>	<b>Microsoft</b> Software Engineer <ul style="list-style-type: none"><li>Responsible for the design, development, and maintenance of a platform that enables developers to build bots to assist other developers improve the quality of their code.</li></ul> <b>Secure Decisions (Division of Applied Visions Inc.)</b> Senior Researcher <ul style="list-style-type: none"><li>Leading the research and development of <u>SAMARITAN</u>, a metrics platform to assist practitioners discover security vulnerabilities in software.</li></ul> Research Intern <ul style="list-style-type: none"><li>Reduced the number of new vulnerabilities reported in Code Dx by 50%-90%, on average, by proposing empirically validated improvements to the algorithm that aggregated vulnerabilities.</li></ul> <b>Rochester Institute of Technology</b> Adjunct Lecturer <ul style="list-style-type: none"><li>Instructor for the undergraduate Introduction to Software Engineering (SWEN 261) course.</li></ul> Graduate Research Assistant <ul style="list-style-type: none"><li>Investigated the association between linguistic characteristics of code reviews and phenomena such as missed security vulnerabilities and feedback being acted upon.</li><li>Proposed actionable recommendations to improve the Common Vulnerability Scoring System (CVSS) based on investigation of its dissonance with vulnerability bounty.</li><li>Published four conference papers and two journal articles.</li></ul> <b>Infosys Limited</b> Software Engineer <ul style="list-style-type: none"><li>Led the redesign effort of <u>citizensbank.com</u> by being a liaison between Citizens Bank and five software and service vendors.</li><li>Ensured business continuity by implementing a time-sensitive fix to Branch Locator on citizensbank.com when legacy MapQuest services were deprecated.</li></ul>	<b>Redmond, WA, USA</b> Jan 2022 – (Present) <b>Northport, NY, USA</b> May 2020 – Nov 2021 Jun 2018 – Aug 2018 <b>Rochester, NY, USA</b> Jan 2018 – May 2018 Aug 2014 – May 2020 <b>Bangalore, KA, IND</b> Jul 2009 – May 2014
<b>PROJECTS</b>	<b><u>SAMARITAN</u></b> <ul style="list-style-type: none"><li>Metrics platform that supports the scalable collection, and analysis, of vulnerability discovery metrics from git repositories. SAMARITAN is composed of microservices orchestrated with K8s.</li></ul> <b><u>Attack Surface Meter</u></b> <ul style="list-style-type: none"><li>Command line utility that uses call graph of a C/C++ application to collect fine-grained metrics to quantify the proximity of a function to the attack surface and its likelihood of being traversed on a random walk from the attack surface.</li></ul> <b><u>reaper</u></b> <ul style="list-style-type: none"><li>Command line utility that uses nine metrics to quantify the extent to which a project contained in a GitHub repository is engineered.</li><li>reaper and the <u>dataset</u> containing the assessment of 1.8 million GitHub repositories are featured on the <u>awesome-msr</u> list.</li></ul>	<b>Python</b> <b>Python</b> <b>Python</b>
<b>ACHIEVEMENTS</b>	<b>Infosys Limited, 2011</b> <b>Adobe Flex Boot Camp, 2008</b>	Best performer among fifteen peers Winners among one hundred competing teams