AHMED TAMRAWI

Love to Learn and Teach, Awesome Team Leader, Software Security researcher and instructor, and a full-stack developer

GET IN TOUCH WITH ME

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+ EMPLOYMENT

AUG '16 – PRESENT

EnSoft Research & Development Engineer
- Being a part of the development of **Atlas**, a novel program analysis, comprehension, and verification platform for multiple languages.
- Being a part of the development of **Modelify**, a platform for converting C code to Matlab Simulink models.
- Developed a novel compact software graph and a fast, scalable, and efficient Linux verification framework resulting on (>80) bugs.

FALL '18

Birzeit University Assistant Professor – Computer Engineering
- Taught a master-level course on Software Construction and developed needed material, exams, projects and assignments.

JAN '17 – JAN '18

Yarmouk University Assistant Professor – Computer Engineering
- Taught Numerical Analysis for Engineers, Introduction to Programming and Operating Systems Concepts courses.
- Developed visually appealing new material and presentations and engaged students in a fun and motivating class environment.
- Being a member of many of the testing committees for senior design projects and internships.
- Held one-on-one meetings with students at each major milestone of the course to assist their understanding and solve any problems.

MAY '16 – AUG '16

Amazon Software Development Engineer
- Developed a web service to compute the accuracy of warehouse shipment forecast service by comparing the forecast data with the actual warehouse shipment data for millions of shipments. The developed web service is currently running live.
- Developed a dashboard to assist decision makers and research scientists to explore the shipment data visually.

SEP '07 – JUL '09

G.ho.st (*Startup Company***) Research & Development Engineer**
- Being a part of the development of a Global web Hosted Operating System (G.ho.st) which provides users with daily-life essential applications and widgets on the web.
- Integrated multiple services into the system and developed widgets and complete GUI to show status updates and notifications from services such as: Facebook, Twitter, and IM services, and Google Docs.
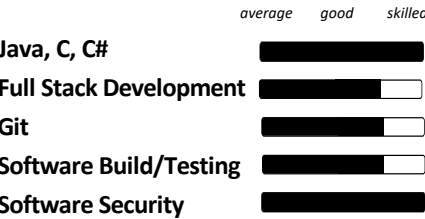
JUN '06 – JAN '07

MBRM Software Developer - Internship
- Developed web and windows applications to satisfy customers' needs, using ASP.NET, C#, Visual Basic, and C++.
- Developed the company's Content Management System (CMS) for creating, managing, and editing their customers' websites.
- Developed a web news crawling algorithm that takes a list of news websites, then crawls those websites via fetching their HTML source. Finally, generating a set of HTML pages for the crawled news articles.

+ EDUCATION

AUG 2016

Computer Engineering – PhD
Electrical and Computer Engineering Department
Iowa State University
Software Analysis, Software Security, and Verification
Thesis: *"Evidence-Enabled Verification for the Linux Kernel"*

AUG 2011

Computer Engineering – MSc *(Fulbright Awardee)*
Electrical and Computer Engineering Department
Iowa State University
Program Analysis, Data Mining, Machine Learning
Thesis: "*Fuzzy set and cache-based approach for bug triaging*"

+ TECHNICAL SKILLS

	average	good	skilled
Java, C, C#			
Full Stack Development			
Git			
Software Build/Testing			
Software Security			

+ PROFESSIONAL SKILLS

	average	good	skilled
Research & Analytics			
Written & Verbal Com			
Technology			
Presentation Skills			
Project Management			
Leadership			
Learning Curve			
Object-Oriented Design			
Problem Solving			
Agile Development			
Algorithm Design			

+ PROFESSIONAL HIGHLIGHTS

- Extensive experience in program analysis to detect novel and sophisticated algorithmic complexity and side channel attacks in Java applications and malware in Android Apps.

- Experience in working on two high profile DARPA programs: APAC and STAC programs. Served on the Iowa State University team as an analyst for **DARPA's Automated Program Analysis for Cybersecurity (APAC)** program ($4,648,672). Currently, serving on the EnSoft team on **DARPA's Space/Time Analysis for Cybersecurity (STAC)** program ($4,137,198).

- Experience in teaching software security and software construction related courses, operating system concepts course, and introduction to programming course. [*See: atamrawi.github.io/teaching*]

- Experience in technical writing, documentation, presentation, and more.

- Proven ability to collaborate across different departments and teams to release products.

- Passion for keeping up with emerging technology and the latest breakthroughs.

- Good experience in object-oriented design and project planning and design.

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➕ Publications [More on: *atamrawi.github.io/publications*]

Ahmed Tamrawi, Sharwan Ram, Payas Awadhutkar, Benjamin Holland, Ganesh Ram Santhanam, Suresh Kothari. **DynaDoc: Automated On-Demand Context-Specific Documentation.** *Third International Workshop on Dynamic Software Documentation (DySDoc3)*, Madrid, Spain, September 2018.

Ahmed Tamrawi, Suresh Kothari. **Projected Control Graph for Computing Relevant Program Behaviors.** *Science of Computer Programming Journal*, Elsevier, October 2018.

Benjamin Holland, Payas Awadhutkar, Suresh Kothari, Ahmed Tamrawi and Jon Mathews. **COMB: Computing Relevant Program Behaviors.** *The 40th International Conference on Software Engineering (ICSE 2018)*, Gothenburg, Sweden, May 2018.

Suresh Kothari, Ganesh Santhanam, Benjamin Holland, Payas Awadhutkar, and Jon Mathews, Ahmed Tamrawi. **Catastrophic Cyber-Physical Malware.** *Springer Verlag Publishers*, April 2018.

2018 ○ Yazan Al-Issa, Mohammad Ashraf Ottom, Ahmed Tamrawi. **Survey on eHealth Cloud Security Challenges.** *International Journal of Applied Engineering Research, Research India Publications*, January 2018.

2017 ○ Ganesh Ram Santhanam, Benjamin Holland, Suresh Kothari, Nikhil Ranade. **Modeling Lessons from Verifying Large Software Systems for Safety and Eecurity.** *The 2017 Winter Simulation Conference (WSC 2017)*, Las Vegas, Nevada, December, 2017.

Ahmed Tamrawi, Suresh Kothari. **Projected Control Graph for Accurate and Efficient Analysis of Safety and Security Vulnerabilities.** *The 23rd Asia-Pacific Software Engineering Conference (APSEC 2016)*, Hamilton, New Zealand, December 2016.

Suresh Kothari, Payas Awadhutkar, Ahmed Tamrawi. **Insights for Practicing Engineers from a Formal Verification Study of the Linux Kernel.** *The 2016 IEEE International Symposium on Software Reliability Engineering Workshops ISSREW 2016*, Ottawa, Canada, October 2016.

Ahmed Tamrawi. **Evidence-Enabled Verification for the Linux Kernel.** *Iowa State University*, Ames, Iowa, August 2016.

Suresh Kothari, Ahmed Tamrawi, Jon Mathews. **Human-machine resolution of Invisible Control Flow?.** *The IEEE 24th International Conference on ICPC 2016*, Austin, Texas, May 2016.

Suraj Kothari, Ahmed Tamrawi, Jeremias Sauceda, Jon Mathews. **Let's Verify Linux: Accelerated Learning of Analytical Reasoning through Automation and Collaboration.** *The 2016 IEEE/ACM International Conference on Software Engineering Companion ICSE-C*, Austin, Texas, May 2016.

2016 ○ Suraj Kothari, Ahmed Tamrawi, Jon Mathews. **Rethinking Verification: Accuracy, Efficiency, and Scalability through Human-Machine Collaboration.** *The 2016 IEEE/ACM International Conference on Software Engineering Companion ICSE-C*, Austin, Texas, May 2016.

2014 ○ Suresh Kothari, Akshay Deepak, Ahmed Tamrawi, Benjamin Holland, Sandeep Krishnan. **A "Human-in-the-loop" Approach for Resolving Complex Software Anomalies.** *The 2014 IEEE International Conference on Systems, Man, and Cybernetics (SMC 2014)*, San Diego, California, October 2014.

Ahmed Tamrawi, Hoan Anh Nguyen, Hung Viet Nguyen, Tien N Nguyen. **SYMake: A Build Code Analysis and Refactoring Tool for Makefiles.** *The 27th IEEE/ACM International Conference on Automated Software Engineering ASE 2012*, Essen, Germany, September 2012.

Ahmed Tamrawi, Hoan Anh Nguyen, Hung Viet Nguyen, Tien N Nguyen. **Build Code Analysis with Symbolic Evaluation.** *The 34th International Conference on Software Engineering ICSE 2012*, Zurich, Switzerland, June 2012.

2012 ○ Anh Tuan Nguyen, Tung Thanh Nguyen, Hoan Anh Nguyen, Ahmed Tamrawi, Hung Viet Nguyen, Jafar Al-Kofahi, Tien N Nguyen. **Graph-Based Pattern-Oriented, Context-Sensitive Source Code Completion.** *The 34th International Conference on Software Engineering ICSE 2012*, Zurich, Switzerland, June 2012.

Ahmed Tamrawi. **Fuzzy Set and Cache-based Approach for Bug Triaging.** *Iowa State University*, Ames, Iowa, May 2011.

2011 ○ Ahmed Tamrawi, Tung Thanh Nguyen, Jafar Al-Kofahi, Tien N Nguyen. **Fuzzy Set and Cache-Based Approach for Bug Triaging.** *The 19th ACM SIGSOFT symposium and the 13th European conference on Foundations of software engineering ESEC/FSE 2011*, Szeged, Hungary, September 2011.

Ahmed Tamrawi, Tung Thanh Nguyen, Jafar Al-Kofahi, Tien N Nguyen. **Fuzzy Set-Based Automatic Bug Triaging (NIER Track).** *The 33rd International Conference on Software Engineering ICSE 2010*, Cape Town, South Africa, May 2010.

2010 ○ Jafar M Al-Kofahi, Ahmed Tamrawi, Tung Thanh Nguyen, Hoan Anh Nguyen, Tien N Nguyen. **Fuzzy Set Approach for Automatic Tagging in Evolving Software.** *The 2010 IEEE International Conference on Software Maintenance ICSM 2010*, Timișoara, Romania, September 2010.