

## Matthew R. Cole

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CONTACT INFORMATION	P.O. Box 6000 Department of Computer Science State University of New York at Binghamton Binghamton, NY 13902-6000	<i>Voice:</i> (206) 790-8791 <i>E-mail:</i> mcole8@cs.binghamton.edu <i>Web:</i> <a href="https://colematt.github.io">https://colematt.github.io</a>
RESEARCH INTERESTS	Computer system security at the intersection of compiler design, program analysis, computer architecture, and reverse engineering.	
EDUCATION	<b>State University of New York at Binghamton</b> , Binghamton, New York USA Ph.D. Candidate, Computer Science <ul style="list-style-type: none"><li>• Dissertation Topic: “Compiler Modifications for Enforcing Integrity Models on Tagged Architectures”</li><li>• Advisor: Aravind Prakash</li></ul> M.S., Computer Science, May 2018 <ul style="list-style-type: none"><li>• Thesis Topic: “Integrity Models”</li></ul> <b>United States Naval Academy</b> , Annapolis, Maryland USA B.S. Computer Science, May, 2005	
HONORS AND AWARDS	United States Naval Academy: graduated <i>With Merit</i> , Upsilon Pi Epsilon. Captained winning team of National Security Agency’s Cyber Defense Exercise.  United States Navy: Defense Meritorious Service Medal, Navy & Marine Corps Commendation with Gold Star, Navy & Marine Corps Achievement Medal, Afghanistan Campaign Medal.	
ACADEMIC EXPERIENCE	<b>State University of New York at Binghamton</b> , Binghamton, New York USA <i>Lecturer</i> <b>January 2022 - Present</b> Taught graduate and undergraduate courses for classes between 30 and 70 students. <ul style="list-style-type: none"><li>• CS 580U: Programming Systems and Tools, Fall 2022</li><li>• CS 458, CS 558: Introduction to Computer Security, Spring 2022</li></ul> <i>Research Assistant</i> <b>January, 2018 - December 2021</b> Performed analyses using the LLVM compiler toolchain, providing defenses to eliminate attack surface area. Engineered an implementation of the RISC-V architecture employing inline code and data tagging for integrity models. <i>Teaching Assistant</i> <b>January, 2017 - December, 2017</b> Co-taught graduate and undergraduate level courses. Authored and proctored weekly labs and graded all coursework. Delivered lectures during instructor-of-record’s absence. Piloted a Github Classroom/Travis-CI course delivery system to provide instant feedback and version control software experience to students while expediting grading. <ul style="list-style-type: none"><li>• CS 458, CS 558: Introduction to Computer Security, Spring 2023</li><li>• CS 480, CS 580: Introduction to Computer Security, Spring 2017</li><li>• CS 220: Computer Systems II, Architecture and C Programming, Fall 2017</li></ul> <i>Graduate Assistant</i> <b>August, 2015 - January 2017</b> Explored widespread unscientific use of performance benchmarks within the computer security community. Repurposed Intel’s MPX spatial memory safety architecture extension as secure storage for	

information hiding applications.

## PUBLICATIONS

## PROFESSIONAL EXPERIENCE

**United States Navy**, Washington, District of Columbia USA

*Department Director*

**May, 2005 - July, 2014**

Held qualifications as Submarine Officer, Nuclear Engineering Officer, Joint Planning Officer, Instructor, Instructor Evaluator and Course Supervisor. Oversaw a department of 40 instructors and 11 laboratories. Planned curricula for 3 courses and delivered lectures for over 120 trainees and 23 submarine crews annually. Rated “highly effective” by external auditors during entire tenure.

**United States Naval Research Laboratory**, Washington, District of Columbia USA

*Intern*

**May, 2004 - August, 2004**

Prototyped Java Management Extensions (JMX) for Mobile Ad Hoc Wireless Networks (MANETs) serving large, distributed sensor networks in real-time.

## PROFESSIONAL SERVICE

- Binghamton University Graduate Student Organization Senate, 2016-2018.
- Binghamton University Graduate Student Organization Judicial Officer, 2018-2019.
- ACSAC Artifact Committee, 2017. <https://www.acsac.org/2017/committees/#artifact>
- ACSAC Artifact Committee, 2020. <https://www.acsac.org/2020/committees/artifact/>
- ACSAC Artifact Committee, 2021. <https://www.acsac.org/2021/committees/artifact/>

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## References