

AYAKA YORIIHIRO

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RESEARCH INTERESTS

Software Engineering, Programming Languages, and Automata Theory, with an emphasis on Specifications for Runtime Verification.

EDUCATION

Cornell University

Ph.D. in Computer Science.

Advisor: Owolabi Legunsen.

September 2020 - Present

Swarthmore College

B.A., Computer Science and Music (double major).

Elected Phi Beta Kappa.

Advisor: Zachary Palmer.

September 2016 - May 2020

HONORS AND AWARDS

NSF GRFP Honorable Mention

2022

Cornell University Outstanding Teaching Award

2022

Cornell University Fellowship

2020

Lockwood Fellowship, Swarthmore College

2020

PUBLICATIONS

eMOP: A Maven Plugin for Evolution-Aware Runtime Verification

RV 2023

Ayaka Yorihiro, Pengyue Jiang, Valeria Marques, Benjamin Carleton, and Owolabi Legunsen.

International Conference on Runtime Verification (RV).

A Set-Based Context Model for Program Analysis

APLAS 2020

Leandro Fachinetti, Zachary Palmer, Scott F. Smith, Ke Wu, Ayaka Yorihiro.

Asian Symposium on Programming Languages and Systems (APLAS).

PROFESSIONAL EXPERIENCE

Research Assistant

Cornell University, Ithaca, NY.

Summer 2021, Jan - Aug 2022

Research Assistant

Swarthmore College, Swarthmore, PA.

Jan - Dec 2019

C++ Engineering Intern

Electronic Arts, Orlando, FL.

Summer 2018

Intern, Sustainability Offices

PwC Japan, Tokyo, Japan.

Summer 2017

TEACHING EXPERIENCE

Guest Lecturer for CS6156: Runtime Verification Applicating of Runtime Verification utilizing the Bitcoin blockchain. Cornell University, Ithaca, NY.	<i>Spring 2023</i>
Teaching Assistant for CS5154: Software Testing Cornell University, Ithaca, NY.	<i>Fall 2021, Fall 2022</i>
Teaching Assistant for Programming Languages Swarthmore College, Swarthmore, PA.	<i>Spring 2020</i>
Teaching Assistant for Theory of Computation Swarthmore College, Swarthmore, PA.	<i>Spring 2020</i>
Grader for Algorithms Swarthmore College, Swarthmore, PA.	<i>Fall 2019</i>
Grader for Introduction to Computer Systems Swarthmore College, Swarthmore, PA.	<i>Spring 2018, Spring 2019, Fall 2019</i>
Student Representative, Faculty Candidate Search Committee Swarthmore College, Swarthmore, PA.	<i>Spring 2019</i>
Student Mentor for Introduction to Computer Science Swarthmore College, Swarthmore, PA.	<i>Fall 2018</i>
Grader for Data Structures and Algorithms Swarthmore College, Swarthmore, PA.	<i>Fall 2017</i>

PRESENTATIONS

Towards Better Specifications for Runtime Verification Joint UT-Cornell Software Engineering Seminar	<i>Summer 2022</i>
Towards Better Specifications for Runtime Verification Programming Languages Discussion Group Retreat Cornell University, Ithaca, NY.	<i>Fall 2021</i>
Automatic Repair of Regular Expressions (Pan, Hu, Xu, D’Antoni) Programming Languages Discussion Group Cornell University, Ithaca, NY.	<i>Spring 2021</i>
Quickly Detecting Relevant Program Invariants (Ernst, Czeisler, Griswold, Notkin) and Leveraging Test Generation and Specification Mining for Automated Bug Detection with False Positives (Pradel, Gross) Great Works in Programming Languages Seminar Cornell University, Ithaca, NY.	<i>Spring 2021</i>
Context-Sensitive Data-Dependence Analysis via Linear Conjunctive Language Reachability (Zhang, Su) Programming Languages Discussion Group Cornell University, Ithaca, NY.	<i>Fall 2020</i>

MENTORING

At Cornell, I have mentored two wonderful undergraduate students:

Tito Maresca

Alan Han

SERVICE

Co-organizer, Joint UT-Cornell Software Engineering Seminar	<i>Summer 2022</i>
Department of Computer Science, Ph.D. Mentorship Czar Cornell University, Ithaca, NY.	<i>Spring 2022 - Present</i>
CS Ph.D. Student Visit Day Student Panelist Cornell University, Ithaca, NY.	<i>Spring 2022</i>
CS Ph.D. Student Visit Day Organizer Cornell University, Ithaca, NY.	<i>Spring 2021</i>
CS Ph.D. 2020 Cohort Zoom Social Hour Organizer Cornell University, Ithaca, NY.	<i>Fall 2020 - Spring 2021</i>

SKILLS AND INTERESTS

Programming Languages	Java, Python, OCaml, C/C++, Bash, L ^A T _E X
Languages	English (Fluent), Japanese (Fluent)
Interests and Activities	Viola, Orchestra, Chamber Music, Special Needs