

Eric Hayden Campbell

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Education

Cornell University

Ph.D. in Programming Languages, Expected May 2023
Thesis Topic: Formal Methods for Dataplane Programs
2019 NSF GRFP Fellow

Pomona College

B.A.s in Computer Science & Mathematics, May 2017
Thesis: Infiniteness and Linear Temporal Logic

Current Projects

Weakest Inference of Control Plane Specifications

Eric Hayden Campbell, Hossein Hojjat, Nate Foster

A Database-Theoretic Foundation for Networks

Eric Hayden Campbell, Christoph Koch, Nate Foster

Refereed Publications

Avenir: Managing Data Plane Heterogeneity via Control Plane Synthesis

Eric Hayden Campbell, Bill Hallahan, Priya Srikumar, Carmelo Cascone, Jed Liu, Vignesh Ramamurthy, Hossein Hojjat, Robert Soulé, Ruzica Piskac, and Nate Foster
NSDI 2021

Kleene Algebra Modulo Theories

Michael Greenberg, Ryan Beckett, and Eric Hayden Campbell
PLDI 2022, Distinguished Paper Award

Π 4: Dependently-Typed Data Plane Programming

Matthias Eichholz, Eric Hayden Campbell, Matthias Krebs, Nate Foster, Mira Mezini
POPL 2022

How to Avoid Making a Billion-Dollar Mistake: Type-Safe Data Plane Programming with SafeP4

Matthias Eichholz, Eric Hayden Campbell, Nate Foster, Guido Salvaneschi, Mira Mezini
ECOOP 2019

Epistemic Semantics in Guarded String Models

Eric Hayden Campbell and Mats Rooth
SCiL 2021

Constructing Integer Matrices with Integer Eigenvalues

Christopher Towse and Eric Hayden Campbell
The Mathematical Scientist, June 2016

Industry	Fujitsu Laboratories of America Research Intern, Property Inference for Legacy Networks <i>Sunnyvale, CA.</i> May 2018 - Aug 2018
	Originate, Inc Software Engineering Intern, Web Development <i>San Francisco, CA.</i> May 2015 - Aug 2015
	Gladly, Inc Software Engineering Intern, Web Development <i>Palo Alto, CA.</i> May 2014 - Aug 2014
Invited Talks	Avenir: Managing Data Plane Diversity with Control Plane Synthesis: <ul style="list-style-type: none"> • <i>VLCS Seminar.</i> EPFL. Oct 23. • <i>Tech Talk.</i> Intel. May 2022. • <i>Tech Talk.</i> Intel. March 2022. • <i>Computer Aided Verification.</i> P4 Verification Workshop. July 2021. • <i>Simons Institute.</i> Synthesis of Models and Systems. May 2021 • <i>Networked Systems Design & Implementation.</i> April 2021 • <i>Synthesis Discussion Group.</i> Yale University. September 2020 • <i>P4 Expert Roundtable Series.</i> How is P4 Evolving as a language?. April 2020
	Epistemic Semantics in Guarded String Models <ul style="list-style-type: none"> • <i>Scientific Computing in Linguistics.</i> February 2021
Outreach	Jane Street AMP Advanced CS Instructor & Course Design, <i>CS3</i> , 2022-2023
	4H Career Explorations Conference Workshop Designer & Leader, <i>Networking and Security</i> , 2018-2022
	Expand Your Horizons Conference Workshop Leader, <i>Googling With Paper Airplanes</i> , 2017-2019
Teaching	Originate, Inc Counselor, <i>Approachable Web Design</i> , 2015
	Computer Science Department, Cornell University TA, OOP and Data Structures, Spring 2018, <i>Teaching Excellence Award</i> TA, OOP and Data Structures, Fall 2017
	Computer Science Department, Pomona College TA, Databases Systems, Spring 2017 TA, Programming Languages, Fall 2016 Head TA, Intro to CS, Spring 2016 TA, Intro to CS, Fall 2015
Guest Lectures	Responsible AI. Enrepreneurship: Growth Hacking. <i>Hult Business.</i> June 2023 SafeP4. Network Programming. <i>Cornell CS.</i> Oct 2019 Decidability of KAT. Intro To Kleene Algebra. <i>Cornell CS.</i> March 2019 Responsibilities for Correctness. FWS: Ethics. <i>Cornell Philosophy.</i> Feb 2019