

Chirag Bharadwaj

PERSONAL INFORMATION	Birthdate: 23 November 1996 Citizenship: United States	Email: chiragb@cs.princeton.edu Phone: +1 609-937-6050
LANGUAGES	English, Kannada, Spanish, Japanese	
RESEARCH INTERESTS	programming language semantics, algebraic theory, computational complexity, verification, computer architecture, microarchitecture design, approximate computing	
EDUCATION	Princeton University , Princeton, NJ MSE, Computer Science expected 06/2019 • GPA: TBD • Advisor: TBD Cornell University , Ithaca, NY BSc, Computer Science 05/2017 • GPA: 3.41/4.00 • Minor: Electrical and Computer Engineering	
RESEARCH EXPERIENCE	Graduate Research Assistant , Princeton University 09/2017– <i>Augmenting NetKAT with Priorities</i> Principal Investigator: David P. Walker Working on extending NetKAT, a network programming language, with partially-ordered priorities. Undergraduate Research Assistant , Cornell University 01/2017–05/2017 <i>LambdaLab: Interactive λ-calculus for Learning</i> Principal Investigator: Adrian L. Sampson Laid out a theoretical foundation for an interactive visual tool that students could utilize to aid in learning the lambda calculus. Considered pedagogical value for multiple-intelligence learners. <i>Behaviorally-equivalent Intermediate Representation Generation</i> 08/2016–12/2016 Principal Investigator: Adrian L. Sampson Generated LLVM IRs equivalent in behavior to complex NVIDIA CUDA programs for GPUs. These IRs were to be used to create a microarchitecture that achieves better CPU/GPU separation.	
TEACHING EXPERIENCE	Graduate Teaching Assistant , Princeton University 09/2017– • ELE 206: Digital Logic Design Undergraduate Teaching Assistant , Cornell University 01/2015–05/2017 • CS 3410: Digital Logic and Computer Organization (head TA) • CS 3110: Functional Programming and Data Structures (head TA) • CS 2800: Discrete Structures	
SCHOLARSHIPS AND AWARDS	Princeton University 09/2017–06/2019 • Teaching assistantship for engineering graduate study Cornell University • Outstanding teaching assistant in Computer Science 05/2017, 05/2016 • PokéSnowdown: Best final project in CS 3110 12/2015 • Dean's List in the College of Engineering 05/2015, 12/2014 Earlier Honors • Outstanding achievement in chemistry (2/747) 06/2014 • NJ VEX robotics semifinalist team: 750-R 02/2014 • National Merit Finalist (1 in 15000) 01/2014 • National AP Scholar (score of 4 or 5 on eight AP exams) 05/2013 • Morton Gould Young Composer Award, honorable mention for 12-18 04/2012	

PUBLICATIONS	Theses	
	<ul style="list-style-type: none"> • C Bharadwaj. <i>LambdaLab: Interactive λ-calculus for Learning</i>. Cornell University, May 2017. 	
	Unpublished Works	
	<ul style="list-style-type: none"> • C Bharadwaj, SD Goré. <i>Reddit Comments via Generative Grammar Modelling</i>, May 2017. • SK Somayyajula, C Bharadwaj. <i>Refined Logic: Implementing Constructive Logics</i>, Dec. 2016. 	
TALKS	Cornell University	
	<ul style="list-style-type: none"> • <i>Handy Techniques in Mathematics</i>, Splash! mathematics seminar, Apr. 2017. • <i>Musical Groups: Exploring Music with Math</i>, Splash! music seminar, Nov. 2016. • <i>Special Topics: Legendre Polynomials in Mathematics</i>, Splash! mathematics seminar, Apr. 2016. • <i>A Survey of Japanese Linguistics</i>, Splash! linguistics seminar, Oct. 2015. • <i>A Treatise on Complex Analysis</i>, Splash! mathematics seminar, Apr. 2015. 	
PROJECTS	Software and Implementations	
	<ul style="list-style-type: none"> • redditcommentor: Using generative grammars to model Reddit comments • refined-logic: Implementing refinement logics in OCaml • PokéSnowdown: A winter-themed single-player spin-off of Pokémon Showdown 	05/2017 12/2016 12/2015
	Notes and Sketches	
	<ul style="list-style-type: none"> • Modern Linguistics: A comprehensive treatment of theoretical/applied linguistics • Cornell Course Notes: A digitization project of notes taken from Cornell courses • Calculus Done Right: A self-teaching approach to learning AP Calculus 	in progress on hiatus 01/2011
SERVICE AND OUTREACH	Princeton University	
	<ul style="list-style-type: none"> • Political Engagement Initiative for Asian-American students • Computer Science dept. representative in Graduate Engineering Council 	10/2017– 09/2017–
	Cornell University	
	<ul style="list-style-type: none"> • Co-mentor for URM and women in Computer Science • Mentor for underclassmen in Computer Science • Freshman orientation leader (group leader) • Engineering freshman peer advisor (lead advisor) • Volunteer piano instructor for adult beginners • NY Science Olympiad invitational organizer and event moderator 	01/2017–05/2017 08/2016–12/2016 08/2016 08/2015–05/2017 08/2015–05/2017 09/2014–02/2017
	Earlier Volunteering Efforts	
	<ul style="list-style-type: none"> • Volunteer AP calculus teaching assistant at Princeton Public Library • High school badminton tournament organizer 	09/2010–05/2014 04/2012–04/2014
SELECTED COURSEWORK	Princeton University	
	<ul style="list-style-type: none"> • COS 521: Advanced Algorithms 	<ul style="list-style-type: none"> • COS 533: Advanced Cryptography
	Cornell University	
	<ul style="list-style-type: none"> • CS 2043: UNIX and Scripting Tools • CS 2112: Honors Data Structures and OOP • CS 2800: Discrete Structures • CS 3110: Functional Programming • CS 3410: Computer Organization • CS 4410: Operating Systems • CS 4700: Artificial Intelligence • CS 4750: Mathematical Robotics • CS 4780: Machine Learning • CS 4810: Theory of Computation 	<ul style="list-style-type: none"> • CS 4820: Analysis of Algorithms • CS 4860: Applied Logic • CS 6110: Advanced Programming Languages • CS 6810: Advanced Theory of Computation • ECE 2100: Electrical Circuits • ECE 2300: Digital Logic Design • ECE 3140: Embedded Systems • ECE 3150: Microelectronics • ECE 4130: Nuclear Science and Engineering • LING 1101: Introduction to Linguistics