Chirag Bharadwaj

Department of Computer Science
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Birthdate: 23 November 1996 in Flushing, NY
Citizenship: United States
Languages: *English* (native), *Kannada* (fluent), *Spanish* (conv.), *Japanese* (elem.)
Skills: Java, Kotlin, OCaml, C, Python, Ruby, BASH, AWK, sed
CUDA, LLVM, ARM, MIPS, Verilog
HTML5, CSS, JavaScript, MySQL, Jekyll, Liquid, Guava, Guice
LaTeX, Eclipse, IntelliJ, Maven, Gradle, Git, Vim, Valgrind, GDB, Lex/YACC, Flex/Bison

Education

- **MSc in Computer Science**, Princeton University, Princeton, NJ exp. 06/2019

  GPA: TBD
  Research interests: *programming languages, algebraic theory, complexity theory, computer architecture*
  Advisor: TBD

- **BSc in Computer Science**, Cornell University, Ithaca, NY 05/2017

  GPA: 3.41/4.00
  Minor: Electrical and Computer Engineering
  Research interests: *programming languages, computer architecture, approximate computing*

Research Experience

- **Graduate Research Assistant**, Princeton University

  Principal investigator: David P. Walker

  "Augmenting NetKAT with Priorities" 09/2017–

  Working on extending NetKAT, an existing networks programming language, with partially-ordered priorities.

- **Undergraduate Research Assistant**, Cornell University

  Principal investigator: Adrian L. Sampson

  "LambdaLab: Interactive λ-calculus for Learning" 01/2017–05/2017

  Project: 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.

  "Behaviorally-equivalent Intermediate Representation Generation" 08/2016–12/2016

  Project: 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 than current ones do.

Teaching Experience

- **Graduate Teaching Assistant**, Princeton University 09/2017–

  ELE 206: Digital Logic Design (1 semester)

- **Undergraduate Teaching Assistant**, Cornell University 01/2015–05/2017

  CS 3410: Digital Logic and Computer Organization (head TA) (3 semesters)
  CS 3110: Functional Programming and Data Structures (head TA) (1 semester)
  CS 2800: Discrete Structures (1 semester)

Publications

Theses

1. C Bharadwaj. *LambdaLab: Interactive λ-calculus for Learning*. Undergraduate thesis, Cornell University. (2017)

Unpublished Works

2. C Bharadwaj, SD Gore. *Generating Text through Natural Language Methods*. Cornell University. (2017)
3. SK Somayyajula, C Bharadwaj. *Refined Logic: Implementing Constructive Logics*. Cornell University. (2016)

Talks

Handy Techniques in Mathematics 04/2017
Mathematics seminar at Cornell University
Musical Groups: Exploring Music with Math 11/2016
Music seminar at Cornell University
Special Topics: Legendre and Laguerre Polynomials 04/2016
Mathematics seminar at Cornell University
A Survey of Japanese Linguistics 10/2015
Linguistics seminar at Cornell University
A Treatise on Complex Analysis 04/2015
Mathematics seminar at Cornell University

Honors and Awards

Princeton University: Teaching assistantship for engineering graduate study 09/2017–06/2019
Cornell University: Outstanding teaching assistant in computer science 05/2017, 05/2016
Cornell University: Best final project in CS 3110: Poké-Snowdown 12/2015
Cornell University: Dean's List in the College of Engineering 05/2015, 12/2014
National Merit Finalist 01/2014
National AP Scholar 05/2013

Service and Outreach

Princeton University: Political engagement initiative for Asian-American students 10/2017–
Princeton University: Computer science representative in Graduate Engineering Council 09/2017–
Cornell University: Co-mentor for URMs and women in computer science 01/2017–05/2017
Cornell University: Mentor for underclassmen in computer science 08/2016–12/2016
Cornell University: Freshman orientation leader 08/2016
Cornell University: Engineering freshman peer advisor 08/2015–05/2017
Cornell University: Volunteer piano instructor for adult beginners 08/2015–05/2017

Selected Coursework

COS 521: Advanced Algorithms
COS 533: Advanced Cryptography

CS 2112: Honors Data Structures
CS 2800: Discrete Structures
CS 3110: Functional Programming
CS 3410: Computer Systems
CS 4410: Operating Systems
CS 4700: Artificial Intelligence
CS 4750: Mathematical Robotics
CS 4780: Machine Learning
CS 4810: Theory of Computation
CS 4820: Algorithm Design
CS 4860: Applied Logic
CS 6110: Advanced PL and Logics
CS 6810: Advanced Theory of Comp.
ECE 2100: Electrical Circuits
ECE 2300: Digital Logic Design
ECE 3140: Embedded Systems
ECE 3150: Microelectronics
ECE 4130: Nuclear Science