

# Aviral Goel

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## Research Interests

Areas Programming Languages • Software Engineering • Computer Systems • Compilers  
Techniques Empirical Evaluation • Dynamic Analysis • Static Analysis

## Software Skills

Languages R • C/C++ • Python • Racket  
Tools Linux • Git

## Education

- '17–Present **Ph.D**, Computer Science *Advised by Dr. Jan Vitek.*  
Northeastern University, Boston, USA
- '16–'17 **M.S**, Computer Science GPA–4.0/4.0.  
Northeastern University, Boston, USA
- '08–'12 **B.E**, Electronics and Communication Engineering 81%–First Class with Distinction.  
Netaji Subhas Institute of Technology, New Delhi, India

## Industry Experience

- May–Aug'19 **Oracle Austria GmbH, Linz, Austria.**  
Research Assistant
- Feb–Dec'15 **Institute for Stem Cell Biology and Regenerative Medicine, Bengaluru, India.**  
Technology Manager
- Sep'13–Feb'15 **National Center for Biological Sciences, Bengaluru, India.**  
Programmer
- July'12–Aug'13 **Yahoo!, Bengaluru, India.**  
Software Engineer
- Jun–July'10 **Siemens Limited, New Delhi, India.**  
Intern

## Teaching Experience

- Fall'18 **Intensive Principles of Programming Languages, CS7400.**  
Ph.D. Teaching Assistant at Northeastern University
- Fall'17 **Parallel Data Processing in Map Reduce, CS6240.**  
M.S. Teaching Assistant at Northeastern University
- Spring'17 **Introduction to Data Management and Processing, DS5110.**  
M.S. Teaching Assistant at Northeastern University
- Summer'16 **Algorithms and Data, CS4800.**  
B.S. Teaching Assistant at Northeastern University



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## Publications

### **OOPSLA'20** Designing Types for R, Empirically.

Virtual Alexi Turcotte • **Aviral Goel** • Filip Křikava • Jan Vitek  
doi 10.1145/3428249 10.5281/zenodo.4037278



### **OOPSLA'19** On The Design, Implementation, and Use of Laziness in R.

Athens • Greece **Aviral Goel** • Jan Vitek  
doi 10.1145/3360579 10.5281/zenodo.3369573



### **POPL'18** Correctness of Speculative Optimizations with Dynamic Deoptimization.

California • USA Olivier Flückiger • Gabriel Scherer • Ming-Ho Yee • **Aviral Goel** • Amal Ahmed • Jan Vitek  
doi 10.1145/3158137

IGI Global **De-Noising, Clustering, Classification, and Representation of Microarray Data for Disease Diagnostics, Research Developments in Computer Vision and Image Processing: Methodologies and Applications.**

Nitin Baharadwaj • Sheena Wadhwa • Pragya Goel • Isha Sethi • Chanpreet Singh Arora  
**Aviral Goel** • Sonika Bhatnagar • Harish Parthasarathy  
doi 10.4018/978-1-4666-4558-5.ch009

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## Conference Talks

### **PL DAY'19** On The Design, Implementation, and Use of Laziness in R.

IBM • NY • USA

### **OOPSLA'19** On The Design, Implementation, and Use of Laziness in R.

Athens • Greece  <https://youtu.be/qLxz9HPP6wI>

### **META'19** Meta-Programming in Data Science

Athens • Greece

Keynote.

### **RIOT'19** RDT: A Dynamic Tracing Framework for R.

Toulouse • France

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## Invited Talks

### 2020 **On The Design, Implementation, and Use of Laziness in R.**

Harvard University, USA	Carnegie Mellon University, USA
Cornell University, USA	University of California San Diego, USA
Princeton University, USA	University of California Riverside, USA
Purdue University, USA	National University of Singapore, Singapore
University of Washington, USA	University of Colorado Boulder, USA
Northwestern University, USA	University of Maryland, USA
University of Utah, USA	University of Wisconsin-Madison, USA
Rutgers University, USA	University of Pennsylvania, USA
University of Kent, UK	

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## Service

### **PLTea** Organizer.

### **REBASE'20** Organizer.

### **OOPSLA'20** Artifact Evaluation Committee + Session Chair.

### **REBASE'19** Session Chair.

### **SPLASH'19** Web Chair.

### **SPLASH'18** Web Chair.



## █ Awards

**OOPSLA'20 Distinguished Artifact Reviewer.**

## █ Languages

Hindi Native/Bilingual Proficiency  
English Full Professional Proficiency

