

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
Tools Linux • Git • Docker

Education

- '17–Present **Ph.D.**, Computer Science *Advised by Dr. Jan Vitek.*
Northeastern University, Boston, USA
- '16–'17 **MS**, Computer Science GPA–4.0/4.0.
Northeastern University, Boston, USA
- '08–'12 **BE**, 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



Publications

OOPSLA'21 Promises Are Made to Be Broken.

Chicago • USA [Aviral Goel](#), Jan Ječmen, Sebastián Krynski, Olivier Flückiger, Jan Vitek

 [10.1145/3485478](https://doi.org/10.1145/3485478)

 [10.5281/zenodo.5394235](https://zenodo.org/record/5394235)



OOPSLA'21 What We Eval in the Shadows.

Chicago • USA [Aviral Goel](#), Pierre Donat-Bouillud, Filip Křikava, Christoph M. Kirsch, Jan Vitek

 [10.1145/3485502](https://doi.org/10.1145/3485502)

 [10.5281/zenodo.5415230](https://zenodo.org/record/5415230)



DLS'21 First-Class Environments in R.

Chicago • USA [Aviral Goel](#), Jan Vitek

 [10.1145/3486602.3486768](https://doi.org/10.1145/3486602.3486768)

OOPSLA'20 Designing Types for R, Empirically.

Virtual [Alexi Turcotte](#), [Aviral Goel](#), Filip Křikava, Jan Vitek

 [10.1145/3428249](https://doi.org/10.1145/3428249)

 [10.5281/zenodo.4037278](https://zenodo.org/record/4037278)



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

Athens • Greece [Aviral Goel](#), Jan Vitek

 [10.1145/3360579](https://doi.org/10.1145/3360579)

 [10.5281/zenodo.3369573](https://zenodo.org/record/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

 [10.1145/3158137](https://doi.org/10.1145/3158137)

IGI Global
ISBN: 146664558X **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 , Pragma Goel , Isha Sethi , Chanpreet Singh Arora

[Aviral Goel](#), Sonika Bhatnagar , Harish Parthasarathy

 [10.4018/978-1-4666-4558-5.ch009](https://doi.org/10.4018/978-1-4666-4558-5.ch009)

Conference Talks

OOPSLA'21 Promises Are Made to Be Broken.

 https://youtu.be/8L_a7mhYdyM

OOPSLA'21 What We Eval in the Shadows.

 <https://youtu.be/aEPd8ijSHul>

DLS'21 First-Class Environments in R.

ICOOOLPS'21 Non-Intrusive Migration from Lazy to Eager Evaluation.

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

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

 <https://youtu.be/qLxz9HPP6wI>

META'19 Meta-Programming in Data Science

Keynote.

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



Service

- SCP'21 **Reviewer.**
- REBASE'21 **Co-Chair.**
- SPLASH'21 **PLTea Chair.**
- ICFP'21 **PLTea Organizer.**
- PLTea **Organizer.**
- REBASE'20 **Co-Chair.**
- 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

